COUNTY BOROUGH OF BIRKENHEAD.

BUREAU OF HYGIENE & TROPICAL DISEASES
LIBRARY
14 NOV 1931

ANNUAL REPORT
OF THE
MEDICAL OFFICER
FOR
1930.

D. MORLEY MATHIESON, M.A., M.D. (Edin.), Ch.B., D.P.H.

Medical Officer of Health;
Chief Medical Officer for the Municipal Tuberculosis, Mental Deficiency,
Maternity and Child Welfare, &c., Schemes, and for the School Medical Service;
and Medical Adviser to the Public Assistance Committee.

COUNTY BOROUGH OF BIRKENHEAD.

ANNUAL REPORT
OF THE
MEDICAL OFFICER
FOR
1930.

D. MORLEY MATHIESON, M.A., M.D. (Edin.), Ch.B., D.P.H.

Medical Officer of Health;
Chief Medical Officer for the Municipal Tuberculosis, Mental Deficiency,
Maternity and Child Welfare, &c., Schemes, and for the School Medical Service;
and Medical Adviser to the Public Assistance Committee.

Digitized by the Internet Archive
in 2017 with funding from
Wellcome Library

https://archive.org/details/b28927242

BUREAU OF HYGIENE & TROPICAL DISEASES
LIBRARY
14 NOV 1937

CHAIRMEN OF COMMITTEES.

Finance Committee	Alderman Clarke, J.P.
Health Committee	Alderman Tweedle, J.P.
Education Committee	Alderman Naylor, J.P.
Maternity & Child Welfare Committee	Ald. Mrs. Mercer, J.P.
Mental Deficiency Committee	Councillor Mrs. Moore, J.P.
Water Committee	Councillor Power.
Public Assistance Committee	Alderman Tweedle, J.P.

INDEX.

PAGE
Abattoirs ... 90
Adenoids and enlarged tonsils ... 26, 149, 158
Administration ... 33
Ambulance facilities ... 147
Anthrax ... 119
Area of Borough ... 129
Artificial sunlight ... 25, 143
Ascertainment of cases of mental deficiency ... 30, 124, 149
Births ... 54
Birth-rates ... 54
Blind, welfare of ... 20, 126, 127
Borough boundaries, extension of ... 32
Cancer ... 59
Cerebro-spinal fever ... 110, 119
Chairmen of Committees ... iii
Cheshire Joint Sanatorium ... 8, 100
Chicken pox ... 119
Children Act, 1908 ... 26, 144
Clinics: Antenatal ... 24, 141
  Postnatal ... 24, 141
  Dental ... 28, 160
  Eye ... 154
  Minor ailments ... 156
  Orthopædic ... 29, 156
  Tuberculosis ... 5, 98
  Venereal diseases ... 104
  X-Rays ... 155
  Artificial sunlight ... 25, 143
Combined public health premises ... 32
Corkhill fund ... 95
Cost of health services ... 36
Deaths ... 56
Death-rates ... 56
Deaths, uncertified ... 57
Dental inspection and treatment ... 28, 149, 159
Diphtheria and membranous croup ... 13, 116
Diphtheria antitoxin ... 113
Diphtheria immunisation ... 25, 114, 118
Disinfection after infectious diseases, etc. ... 99, 112
Drugs ... 1, 90
Elementary schools (medical inspection and treatment) ... 151
Elementary schools (dental inspection and treatment) ... 159
Encephalitis lethargica ... 15, 110
Enteric fever ... 14, 119
Erysipelas ... 119
Examination of dairy cows in Borough ... 81
Extension of Borough boundaries ... 32
Eye disease or injury ... 128
Factories and workshops ... 135
Film displays ... 23, 31, 151
Food ... 1, 79, 90
Food and drugs inspection ... 93
General ... 32, 147
Health education ... 23, 31, 137, 151
Health of school children ... 26, 148
Health services, cost of ... 36
Home nursing ... 114, 144
Hospital, Infectious Diseases ... 15, 114
Hospital, Leasowe ... 8, 101, 158
Houses, new ... 129
Housing and general sanitation ... 21, 129
Immunisation against diphtheria ... 25, 114, 118
Immunisation against scarlet fever ... 116

INDEX.—CONTINUED.

PAGE
Increase of Rent, etc., Acts, 1920-1923 133
Industries, local 78
Infant life protection 26, 144
Infantile mortality 57
Infectious diseases 12, 109
Infectious Diseases Hospital 15, 114
Inquests 57
Interest of parents in school medical inspection work 31
Investigation into chemical composition of milk of nursing mothers ... 25
Laboratory 16, 121
Leasowe Hospital 8, 101, 153
Local industries........ 78
Lodging houses 134
Maternal mortality 146
Maternity and child welfare 24, 138
Maternity homes 145
Meals, provision of 164
Measles 14, 119
Meat inspection 3, 90
Medical inspection and treatment of school children 26, 148
Mental deficiency 18, 124, 149, 162
Mentally defective children 149, 162
Meteorological results 48
Midwives, inspection and supervision of 139
Milk supply 1, 80, 122
Municipal and voluntary hospitals 45
Municipal laboratory 16, 121
Mothercraft demonstrations 139
North Health Clinic 31
Notification of tuberculosis 96
Nursing homes 145
Occupations 78
Open-air school 151
Operative treatment for cases of nose and throat obstruction 26, 149, 158
Ophthalmia neonatorum 140
Orthopædic defects, treatment of 29
Otitis media, treatment of 27, 149, 156
Partially blind children 26, 155
Pneumonia 15
Poisons and Pharmacy Act, 1908, and Orders, 1909 136
Poor law functions, transfer of 38
Poor law medical out-relief 147
Population 54
Public assistance relief 78
Public health (combined) premises........ 32
Puerperal fever and puerperal pyrexia 140
Rag Flock Act, 1911 136
Rats and mice 133
Ringworm 28, 149, 155
Rubella 119
Sale of food and drugs 7, 93
Scarlet fever 13, 116
Scarlet fever immunisation 116
School children, health of 26, 148
Secondary schools (medical inspection and treatment) 31, 161
Short statistical summary 33
Smallpox 12, 110, 113
Squint, children suffering from 148
Staff 33
Stammering children 27, 148
Stillbirths 55
Sunlight, artificial 25
Superannuation 35
Survey, 1926-1930 1
Theatres, music halls, etc. 133

INDEX.—CONTINUED.

PAGE
Thingwall Sanatorium 9, 99, 158
Tonsils and adenoids 26, 149, 158
Totally blind children 155
Training of nurses 119
Transfer of poor law functions 38
Treatment of orthopædic defects 29
Treatment of otitis media 27, 149, 156
Treatment of ringworm of scalp 28, 149
Tuberculosis 5, 58, 95
Typhoid fever 119
Uncleanliness 28, 158
Unemployment 78
Vaccination 112
Venereal diseases 11, 104
Voluntary and municipal hospitals 45
Voluntary workers at clinics 141
Water supply 80, 122
Weather 48
Welfare of the blind 20, 126, 127
Whooping cough 14
Workshops 135
X-Ray treatment of ringworm 155
Zinc ionisation 27, 149, 156

CONTENTS.

PAGE
- Survey, 1926-1930 1–32
- Short statistical summary 33
- Administration 33–34
- Superannuation scheme 35
- Cost of health services 36–37
- Transfer of poor law functions 38–44
- Municipal and voluntary hospitals 45–47
- Weather 48–53
  - Meteorological Station, Thingwall Sanatorium 48-51
  - Bidston Observatory 52–53
- Population, births and deaths 54–77
  - Population 54
  - Births 54–56
  - Deaths 56–77
- Local industries 78
  - Occupations 78
  - Unemployment 78
  - Amount of public assistance relief 78
- Water supply, food and drugs 79–94
  - Water supply 80
  - Milk supply 80–89
  - Other foods and drugs 90–94
- Tuberculosis 95–103
  - Administrative arrangements 95–96
  - Prevalence of, and mortality from, tuberculosis 96–97
  - Cases dealt with through the tuberculosis clinic 98–99
  - Home visiting, disinfection, compulsory treatment, etc. 99
  - Thingwall sanatorium 99–100
  - Cheshire joint sanatorium 100–101
  - Leasowe hospital 101–102
  - Statistical tables 102–103
- Venereal diseases 104–108
  - Administrative arrangements 104
  - General notes 104–105
  - Statistical tables 106–108
- Other infectious diseases 109–120
  - Infectious diseases which are notifiable 109–111
  - Disinfection 112
  - Vaccination 112–113
  - Issue of diphtheria antitoxin 113
  - Immunisation at clinics against diphtheria 114
  - Home nursing 114
  - Infectious diseases hospital 114-120
- Municipal laboratory 121–123
  - Administrative arrangements 121
  - Examinations carried out at laboratory 121–123
  - General 123
- Mental deficiency 124–126
  - Administrative arrangements 124
  - Cases coming within the provisions of Mental Deficiency Acts, 1913 and 1927 124–126
  - Cases dealt with under the Education Act, 1921 126
  - Cases coming within the provisions of the Blind Persons Act, 1920 126
- Welfare of the Blind 127–128
  - Administrative arrangements 127
  - Eye disease or injury 128
  - General facts regarding blind persons in Birkenhead 127–128
- Housing and general sanitation 129-134
  - Administrative arrangements 129
  - General 129-130
  - Administrative action taken in connection with housing and general sanitation 130–134
- Factories, workshops and workplaces 135–136
  - Factory and Workshop Act, 1901 and 1907 135–136

CONTENTS.—CONTINUED.

PAGE
  - Rag Flock Act, 1911 136
  - Poisons and Pharmacy Act, 1908, and Orders, 1909 136
- Health education 137
- Maternity and child welfare 138–146
  - Administrative arrangements 138–139
  - Inspection and supervision of midwives 139–140
  - Home visiting of expectant mothers, mothers, and young children 140
  - Antenatal clinics 141–143
  - Artificial sunlight treatment 143
  - Postnatal clinics 141
  - Infant life protection 144
  - Other provision made by the local authority 144
  - Agencies assisted by the local authority 144–145
  - Agencies not provided or assisted by the local authority 145
  - Nursing homes 145
  - Maternal mortality 146
- General 147
- Health of school children 148–176
  - Administrative arrangements 148–151
  - Medical inspection and treatment (elementary schools) 151–159
  - Dental inspection and treatment (elementary schools) 159–161
  - Medical inspection and treatment (secondary schools) 161–164
  - Miscellaneous 164–176

SURVEY, 1926—1930.

This report is the second of the special five-year " Survey Reports" required by the Ministry of Health on the public health circumstances and activities of the Borough. The Ministry's Circular 269, issued on 28th December, 1921, stated that Annual Reports " of a full and detailed character . . . will normally be required at intervals of not more than five years " ; the reports for the intervening years (" Ordinary Reports ") to be of a more simple character.

The first report for Birkenhead specially prepared on " Survey " lines was issued in 1926, and dealt with the period 1920—1925. The present report gives some general account of the period which has since elapsed; the usual statistical information for the year immediately past (1930) being also included.

The Assistant Medical Officers, the School Dental Surgeon, the Veterinary Officer, and the Chief Sanitary Inspector have given valuable assistance in the preparation of the various sections of this Report with which each has been specially concerned. For their assistance, and for the loyalty and keenness which has been shown by members of the staff of the Department during the past year, I am much indebted.

FOOD AND DRUGS.

Food and drugs inspection.—The following table gives a summary of work done under the Food and Drugs Acts for the years 1926-1930 inclusive:—

Year	Samples taken		Total	No. of samples adulterated	No. of cases in which proceedings were taken	Total of fines and costs inflicted	No. of cases dismissed or withdrawn
	Formally	Informally					
1926	158	280	438	81	30	£85 13 0	nil.
1927	183	319	502	66	31	69 19 0	10
1928	295	246	541	84	43	119 9 6	7
1929	278	298	576	59	25	35 3 0	11
1930	282	279	561	40	7	6 8 0	3

Many samples reported as adulterated, or under the standard of quality demanded, are only slightly below the requirement. In such cases legal proceedings may not be instituted against the vendors. Each individual case, however, is carefully examined, and the vendors are notified of any breach of the Food and Drugs Act, and an explanation required.

Milk is the chief article of food subject to adulteration or variation; and over 50% of the total samples taken for analysis in any one year are milk samples. In addition to samples of milk taken for chemical analysis, samples of graded milk are taken under the Milk (Special Designations) Order, 1923, for examination for B-coli and other bacteria; special samples being taken and examined for the presence of tubercle bacilli. The latter may be regarded as of special importance from a public health point of view; of the samples examined in 1930 no fewer than 12 out of a total of 101, or 11.8%, were tubercle-infected milks. Such milks are a serious danger, especially when they are given to infants and young children. Tuberculous meat is seized and destroyed, and adequate means of inspection are provided under the Meat Regulations; legislation is required to secure the thorough examination of milch cows, and to prevent tubercle-infected milk being marketed. Meat is always cooked before being eaten, and, if the cooking process is complete, the majority, if not all, of the tubercle bacilli in infected meat are destroyed; but milk is drunk by most children without boiling or heating sufficiently to kill the bacilli. For this reason alone, milk producers should be required to submit to the local authority, at least once in every three months, a Veterinary Surgeon's certificate as to the health of each cow kept by them.

With " Graded ' milks there is less likelihood of tubercle-infected milk finding its way to the public. One case of " Grade A " milk, however, examined in the laboratory last year was found to be tubercle-infected. Although a compulsory quarterly inspection of milch cows by a Veterinary Surgeon would not entirely prevent diseased milk being sold to the public, it would very considerably reduce the danger.

All milk taken for examination by this Department is examined for crude dirt contamination ,and the cleanliness of the milk sent into the Borough is improving year by year.

Since the passing of the Milk and Dairies (Amendment) Act, 1922, action has been taken in Birkenhead to prohibit the sale of milk in shops where other trades are carried on, in conjunction with the retailing of milk; and most of these shops have now been removed from the register. No new premises are registered unless they are used for the sale of milk and dairy produce only.

The standard of cleanliness in the dairy trade has been very steadily improved, to the benefit of the health of the inhabitants of the Borough.

At the end of the year 1930, the following information was obtained as to the grades and amount of milk sold in the Borough :

Grade	Gallons sold daily	Percentage
" Certified " milk	20	·37%
" Grade A " (T.T.)	47	·86%
" Sterilized "	22	·40%
" Pasteurised "	2750	50·46%
Other milk	2611	47·90%
Totals ...	5450	100·00%

Up to five years ago no " Pasteurised " milk was sold in Birkenhead; then one of the largest trading concerns in the Borough decided to embark in the milk business, and installed a pasteurising plant. The milk passes through the pasteurising process exactly as required by the Milk (Special Designations) Order, but is not sold as "Pasteurised" milk, although the firm are in the possession of the necessary "licence" to sell "Pasteurised" milk.

Milk and Dairies (Consolidation) Act, 1915 and Milk and Dairies Order, 1926.—Under the provisions of these enactments; the former operating from September 1st, 1925, and the latter from October 1st, 1926, provision has been made for the necessary veterinary inspection of cattle *in farms within the Borough* and for the supervision as regards general cleanliness and hygiene of the premises on which dairy cattle are kept. Quarterly examinations of all animals on these farms supplying milk are made by the Veterinary Officer. The examinations take place at specially selected times when the cows are freshly milked, and when the udder is entirely empty and lends itself best to palpation. In some other areas where routine examination of dairy cattle is carried out, more frequent inspections are made, but the value of this increased frequency is entirely lost by the fact that many of the inspections take place at periods of the day when the cows' udders are partially or wholly full of milk, and efficient palpation and examination for the presence of tuberculous mastitis is impossible.

With the extension of the Borough, additional farms have been embraced within Birkenhead; at the beginning of 1926 there were only two dairy farms within the Borough; at the end of 1930 the number had risen to 16 farms with a total of 294 dairy cows. During the year 1926, 49 examinations of cows were made by the Veterinary Officer, while during 1930 the number of examinations made was 1,339.

Milk (Special Designations) Order, 1923.—In 1928, the owner of one herd of cattle within the Borough averaging 70 dairy cows was licenced for the production of Grade "A" milk. This herd continues to produce milk of the required standard; and while, as yet, no other farmers have sought to take out graded licences, the influence of this licensed herd in the district is by no means negligible.

Tubercle-infected milk entering the Borough from outside farms.—Whenever samples of milk from outside sources are reported, upon examination at the Municipal Laboratory, to contain living tubercle bacilli, an examination of the cattle at the responsible farm is carried out jointly by the Veterinary Officer and the local Veterinary Inspector of the County Council concerned, and efforts are made to trace the affected cow. Since the inception of this procedure in 1927, 20 such visits to outside farms have been made by the Veterinary Officer. It is proposed during the coming year to increase fivefold the number of samples taken within the Borough for examination for tubercle bacilli, and it is anticipated that the number of visits to outside farms by the Veterinary Officer will be greatly increased and will form an important part of his duties.

Staff engaged on inspection of meat and other foods.—In 1926 the staff engaged in the inspection of meat and other foods consisted of the Veterinary Officer, 1 meat inspector, 2 detention officers, and 1 clerk; at the end of 1930 the staff included the Veterinary Officer, 1 meat inspector, 1 assistant meat inspector, 1 temporary assistant meat inspector, 1 detention officer, and 1 acting detention officer. The general raising of the standard of meat and food inspection in this country, demanded by general public opinion and increased enlightenment among the consumers, together with the position held by Birkenhead as a distributing centre for meat, necessitates an adequate and efficient staff of inspectors, and the Health Committee propose in the near future to make additions to the present staff.

Meat and food inspection.—During the past five years the inspection of meat and other food has been gradually made more complete; additional attention has been paid to shops and stores within the Borough. The following is a summary of the amount of meat and other food condemned during the period 1926-1930 :—

Year	Carcases				Parts of Carcases				Offal	Other Foods (Fish, game, poultry fruit, &c.) Weight in lbs.
	Affected with Tuberculosis	Weight in lbs.	Affected with other conditions	Weight in lbs.	Affected with tuberculosis	Weight in lbs.	Affected with other conditions	Weight in lbs.	Weight in lbs.	
1926	99	52,947	208	44,961	347	19,363	145	20,334	199,987	389
1927	153	76,017	291	65,320	250	22,233	178	6,436	264,758	1,546
1928	344	121,788	248	69,258	534	30,210	121	2,777	308,868	553
1929	117	89,208	299	60,572	381	17,669	110	3,979	334,576	458
1930	158	78,467	162	50,294	425	21,932	126	5,233	283,748	1,931

Marking of meat.—During 1929 arrangements were made for the marking, on request, of meat examined and passed for human food, as provided by Part 3 of the Public Health (Meat) Regulations, 1924. The Ministry of Health, after enquiring into the system of inspection carried out in Birkenhead, gave its approval to the system of marking meat inspected here, and authorised the use of a distinctive inspection mark. Up to the present, however, little advantage has been taken of these arrangements.

Number of animals slaughtered annually in Birkenhead.—The number of animals slaughtered annually in Birkenhead during the years 1926-1930 is shown in the appended table:—

Year	Woodside Lairage					Tranmere Abattoir					Grand Total
	Oxen	Calves	Goats	Sheep	Pigs	Oxen	Calves	Goats	Sheep	Pigs	
1926	67,455	—	22	532	1,331	301	1,112	—	7,429	4,085	82,267
1927	65,619	—	64	857	1,455	387	1,210	—	10,056	4,436	84,084
1928	73,244	—	14	385	486	255	1,212	—	10,485	4,537	90,618
1929	67,371	—	—	432	104	252	1,532	—	9,796	4,196	83,663
1930	54,543	—	—	261	196	336	1,425	—	11,078	3,894	71,733

The number of animals slaughtered at Tranmere Abattoir shows but slight variation from year to year; though there is some tendency to an increase in the numbers of cattle and sheep slaughtered. The decrease in the number of animals slaughtered at Woodside is due in part to the temporary cessation in the importation of Canadian cattle since 1928; in part to the depressed state of industry in the country with a decreased demand for home-killed meat. Two shipments of Canadian cattle consisting of 436 head were slaughtered here during 1930, and there is a strong probability of a general revival in the Canadian cattle trade during the coming years.

TUBERCULOSIS.

No important developments with regard to tuberculosis have occurred during the five years under review. The arrangements in existence at the end of 1925 have remained in force with but little alteration. It may be anticipated, however, that considerable modification in these arrangements will be seen in the near future. The wide changes brought about by the Local Government Act, 1929, are already beginning to manifest themselves; and this and many other branches of public health work will undoubtedly be affected

The Tuberculosis Clinic.—The Clinic remains the focus of the tuberculosis scheme; it is the diagnostic and consultation centre, where all records are stored. Since the beginning of 1926, following on the adoption of a national system of classification, case taking and returns, these records have been kept in a new form. Experience during the past five years, and the issue of further instructions and modifications by the Ministry of Health, have led to a further careful reconsideration of record-keeping, and during 1930 the system was again revised and improvements, chiefly in detail, were introduced. A clinic register in the new form will be ready for use on the 1st January, 1931.

The adoption of a national system of classification, though it has been criticised in some quarters, is undoubtedly of great value. In pulmonary tuberculosis the classification of patients into T.B.- and T.B.+1, T.B.+2, T.B.+3 classes is of fundamental importance, particularly that into T.B.- and T.B.+. (The former are cases where tubercle bacilli have never been found in the sputum; the latter are cases where the presence of bacilli has been demonstrated). The further subdivision of the cases into Group I, Group II and Group III* is, compared with the first distinction, of little value—it depends too much upon individual variations in the detection and interpretation of physical signs. It is safe to say that 100 T.B.+ cases would be grouped quite differently by an optimistic and a pessimistic Tuberculosis Officer respectively. But the difference between T.B.- and T.B.+ is a difference of fact and is of real value. The suggestion made in some quarters to group T.B.- and T.B+1 cases together as "early" cases of tuberculosis is fundamentally wrong, and would vitiate the most useful help that this classification gives, namely, the separation of cases of *undoubted* tuberculosis (all the T.B.+ cases) from those where the diagnosis is based on clinical and radiological evidence only (T.B.- cases). This latter group, though it may be a reasonable and practical one for the purposes of treatment, is nevertheless indefinite and subject once more to personal factors which may vary to an immeasurable extent. The diagnosis of lung tuberculosis in its early stages is a matter of great difficulty; among any group of patients classed at T.B.- there must be some who are in fact not tuberculous at all. Professor Fishberg says: "When we bear in mind that hardly more than 10 per cent. of 'sputum negative' cases—in which the sputum was examined several times and revealed no tubercle bacilli—are actually tuberculous, it is clear that many other clinical conditions pass for tuberculosis very frequently." Dr. H. Mason Leete, as a result of ten years' study of this particular question in Birkenhead, formed the opinion that at least 50% of the notified T.B.- cases were not actually tuberculous. These cases are marked as "diagnosis doubtful," but they remain on the books as T.B.- cases and are included year after year in the statistics as such. The value of statistics relating to such cases is small.

---

*Patients suffering from pulmonary tuberculosis are divided into groups which may briefly be defined as follows:—

T.B. minus = cases in which tubercle bacilli have never been demonstrated in the sputum, etc.

T.B. plus Group I = cases in which tubercle bacilli have at any time been demonstrated with slight constitutional disturbance and where the physical signs are of very limited extent.

T.B. plus Group II = all cases which are neither slight nor advanced and which cannot be placed in Group I or III.

T.B. plus Group III = cases with profound systemic disturbance or constitutional deterioration, marked impairment of function, either local or general, and with little or no prospect of recovery.

It should be noted that a patient originally in Group T.B. minus must be transferred to Group T.B. plus at any stage in the course of treatment if and when tubercle bacilli are found, while on the other hand a patient once placed in Group T.B. plus can never be transferred to Group T.B. minus.

A full explanation of the Groups will be found in Memorandum 37 T issued by the Ministry of Health in September, 1925.

Nevertheless, by the adoption of a national classification of pulmonary tuberculosis cases into T.B.- and T.B.+ a step has been taken by the Ministry which will be of great ultimate value; it is a move towards what may be called "reality in tuberculosis." Tubercle has suffered far too long from a vagueness which handicaps those who would tackle the problem with energy, and classification from any direction has been urgently needed.

This matter has been dealt with at some length because of its importance in the keeping of records, without which no estimate can be formed of the practical return obtained for expenditure on sanatoria and other forms of treatment. The backbone of the system is the individual case-record, in which is kept the findings of the family doctor, the clinical tuberculosis officer, the sanatorium superintendent; letters, reports, and all correspondence relating to the patient.

Incidence of tuberculosis, so far as this is revealed by notification.—

Notifications	1926	1927	1928	1929	1930
Pulmonary........................	258	246	234	219	203
Non-pulmonary	132	113	131	66	76

State of notified cases.—Evidence is abundant that the majority of cases are notified in a late stage of the disease, which means that little can be done for the patients, and that there has probably been a considerable dissemination of infection before the disease was recognised.

In order to see if there is any indication of improvement with regard to notification, figures for the past ten years are given below :

Year	No. of tuberculosis deaths (all forms)	Percentage of these patients who had been notified *less than six months before death*	Percentage *not notified at all*
1921	194	46·9	25·8
1922	191	40·3	36·7
1923	152	40·1	34·2
1924	187	44·9	30·0
1925	158	49·3	22·1
1926	161	59·0	14·3
1927	200	49·0	12·0
1928	193	53·9	14·5
1929	203	43·8	16·7
1930	170	47·0	12·3

It will be seen that although the percentage of those cases not notified at all has tended generally to fall since 1922 the position with regard to the time of notification is still very unsatisfactory, bearing in mind the fact that the duration of illness in the average fatal case is probably at least two to three years.

Number of cases on notification register.—After corrections for deaths, permanent transfers from the district, and removal of names of persons classed as cured, the total number of cases of tuberculosis on the notification register at the end of the respective years was as follows :—

	1926	1927	1928	1929	1930
Pulmonary	1285	1391	1433	1481	1556
Non-pulmonary	611	689	750	765	813

That the total figure shows an increase from year to year is to be expected, as removals from the notification register do not equal the increment due to fresh notifications. The corrections for deaths and transfers can be stated accurately. The number of cases regarded as " cured," however, can only be given for those patients who attend at the clinic Among the remainder who have not attended at the clinic there may be many in whom the diagnosis has never been confirmed, or in whom the disease may reasonably be regarded as arrested. Again, a long period must elapse before any considerable proportion even of clinic cases can be written off as cured, in view of the stringent standard which is applied in accordance with the recommendation of the Ministry of Health. This standard provides, for example, that in pulmonary cases there must be a clear period of five years, and in non-pulmonary of three years, without any symptoms of active disease before a cure can be recorded. As active symptoms may easily persist for two, three or five years, even in cases doing well, there is little chance of a patient notified as suffering from pulmonary tuberculosis having his name removed from the register as "cured" for a period of eight years; and then only if the medical officer at the clinic has an opportunity of making the necessary examinations. Bearing such facts in mind it will be seen that the "known case" figure will include many cases in which the disease is non-existent (error in notification), quiescent (within the five or three years waiting period), or trivial (*e.g.*, minor cases of glands in the neck).

Cheshire Joint Sanatorium.—The full number of 32 beds which is the accommodation reserved for Birkenhead cases became available in 1927. An examination of the records of all Birkenhead patients discharged from the Sanatorium during the past five years was made at the end of 1930. The result obtained is set out in the following table (cases that stayed less than three months in sanatorium have been excluded from the detailed analysis):—

Condition at the end of 1930	Year of discharge									
	1926		1927		1928		1929		1930	
	TB. –	TB.+	TB. –	TB.+	TB. –	TB.+	TB. –	TB.+	TB. –	TB.+
Arrested	1	1	2	2	1	1	–	1	–	–
Quiescent	1	–	2	–	1	2	2	10	–	–
Improved	1	1	–	1	–	1	5	11	6	23
No material improvement	1	1	–	–	–	1	–	1	–	1
Transferred to other districts	1	2	2	1	–	–	–	3	–	–
Lost sight of	1	–	–	–	–	–	–	–	–	–
Dead	–	6	4	12	1	10	2	6	–	4
Condition not ascertained	3	4	1	2	2	4	–	1	–	–

Division of the T.B.+ cases into Groups 1, 2 and 3 has not been considered necessary in this table. It may be stated, however, that the great bulk of sputum-positive patients (at least 80%) that are sent to Market Drayton are classified as T.B.+2. T.B.+1 cases are rare. T.B.+3 cases are not as a rule sent to sanatorium but recommended for domiciliary or hospital treatment. The T.B.+ classification in these columns may, therefore, be regarded for all practical purposes as being equivalent to T.B.+2.

Leasowe Hospital.—Throughout the review period the 12 beds reserved by the Corporation for cases of surgical tuberculosis in children under the age of 14 have been fully occupied. Details of the localisation, etc., have been given in my annual reports. The number of patients discharged in the respective years was as follows:—

1926	1927	1928	1929	1930
9	9	6	8	5

After-results.—In the years reviewed, therefore, a total of 37 patients were discharged from treatment. Below is the result of an investigation of these cases carried out at the end of 1930 :

Condition quiescent	21
Died	7
Transferred to other institutions	2
Re-admitted to Leasowe Hospital	2
Condition found to be not tuberculous	1
Condition not ascertained	4

Thingwall Sanatorium.—Since the beginning of 1926 Thingwall Sanatorium has been entirely devoted to the treatment of children. This was made possible when the full quota of beds for Birkenhead cases at the Cheshire Joint Sanatorium became available at the end of 1925. With the exception of a few " closed " pulmonary cases, only patients suffering from non-pulmonary tuberculosis and patients for " observation " purposes have been admitted. An analysis of the admissions during the period under review shows the following classification :—

Tuberculosis of bones and joints	47
Tuberculosis of abdominal glands and peritoneum	48
Tuberculosis of cervical glands	40
Tuberculosis of lungs (all non-infectious)	31
Tuberculosis of other parts of body (skin, eyes, etc.)	9
Under observation	45

The condition of patients discharged over the same period may be summarised as follows :—

Disease quiescent	113
Disease cured or arrested	2
Improved	39
No improvement	18
Found after observation not to be suffering from tuberculosis	34
Deteriorated	1
Died	3

The services of Dr. T. Hartley Martin, as orthopædic surgeon, are fully utilised at the sanatorium. The system of interchange of patients between Leasowe Open-Air Hospital and Thingwall Sanatorium is of the greatest value. Children suffering from acute or severe lesions, and requiring intensive orthopædic treatment, are admitted directly to Leasowe or transferred there from Thingwall. When the acute condition has subsided and treatment consists chiefly of rest or prolonged immobilisation on a frame, patients are admitted or re-transferred to Thingwall.

In 1926 an Artificial Sunlight Lamp of the Carbon Arc type was installed at the sanatorium and this is used from late Autumn to Spring. The lamp is in daily use during the winter months and it is found that with its gentle tonic and bracing effect it tides the patients over until the return of the natural sunlight of the Spring and Summer. The disproportionate enthusiasm with which, in some quarters, artificial Heliotherapy was hailed a few years ago has had time to cool down, and a more balanced view is now taken of its usefulness. In my annual report for 1927 attention was called to its merits and limitations.

The education of the patients has not been neglected. In the autumn of 1926 a teacher was appointed and classes are held in the "Corkhill" Pavilion. Formerly, children suffering from tuberculous complaints, especially of the spinal type, often had to spend one, two, or even three years immobilised on a frame in a state of mental inertia, and that during the most receptive period of their lives. Though the teaching now provided is not exacting, the minds of the patients are, at any rate, stimulated, occupied and directed into proper channels.

The need for the provision of systematic dental examination is becoming evident. Children who have to spend years in the institution at a time when the teeth are either erupting or falling out require periodic dental inspections. It is hoped that arrangements for this work to be carried out will soon be made.

In 1928, the sanatorium, previously dependent for electric energy upon its own plant, changed over to the Corporation's electricity supply; the transfer being effected at a time when it would have been necessary to have replaced the whole of the storage cells had the sanatorium's plant been kept working.

X-Ray examinations.—In 1928 arrangements were made for X-Ray examinations of doubtful cases of pulmonary diseases to be carried out at Tranmere Infirmary by Dr. R. W. Gemmell. While an X-Ray examination is a most useful adjunct in the diagnosis of doubtful cases of tuberculosis it must not be assumed that the final verdict as to whether a lung is tuberculous or not depends upon the radiograph.

Artificial Pneumo-thorax.—Provision locally of this form of treatment is now urgently needed. Many cases of phthisis with unilateral disease are treated by this method, which requires to be maintained for a considerable period (sometimes for years) and which necessitates attendance on the part of the patients for refills at intervals varying from a fortnight to a month. Primary induction of pneumo-thorax must be carried out in conjunction with X-Ray screening of the chest, but subsequent refills may be given without the aid of X-Rays, though it is desirable to screen the chest from time to time.

At present patients who have undergone this treatment at the Cheshire Joint Sanatorium have to return after discharge at stated intervals for refills. Practically all these patients have no means beyond their National Health Insurance or Unemployment Benefit, and receive a grant of 10/- from the Corkhill Charity Fund towards the cost of the return fare to Market Drayton of 13/8.

It is hoped to make provision in 1931 for the treatment to be given at the Birkenhead Infirmary, which will mean a saving not only of money but of the strain and inconvenience to patients occasioned by frequent travellings to and from the sanatorium.

Prevention.—Tuberculosis is a preventable disease. The answer to the question "If preventable, why not prevented?" is, of course, obvious: prevention costs money.

The outstanding requirements are these :

1. Cut off the obvious sources of infection.
    - (*a*) Separate sputum-positive patients from close contact with other individuals, especially children.
    - (*b*) Prohibit the sale of tuberculous milk—such sale is perfectly legal at present.
2. Improve the environment and increase the standard of resistance of the people.
    - (*a*) Replace the housing conditions which the present century has inherited as a legacy from its predecessor —the century of industrial " progress "—by properly designed and spaced-out dwellings, with a maximum access of fresh air and sunlight.
    - (*b*) Abolish industrial smoke, which cuts off health-giving sunshine from those who live in our large towns.
    - (*c*) Provide a sensible and adequate diet, with sufficient food-value and vitamin content.
    - (*d*) Educate the children who are the adults of to-morrow in the art of healthy living—a subject which is not conspicuous in school curricula.
    - (*e*) Provide accommodation in holiday camps or simply-designed, inexpensive, healthily-situated institutions where those ' run-down ' patients who are so often the candidates for tuberculosis may obtain recuperative treatment. Such institutions could be maintained at a fraction of the cost of sanatoria of similar size.

VENEREAL DISEASES.

During the past five years the number of cases of venereal disease under treatment at the Municipal Clinic has remained more or less constant; the attendances fluctuating between a maximum of 12,763 (in 1928) and a minimum of 10,268 (in 1929). As usual a large proportion of the patients dealt with have been seafarers. There has been a progressive increase in the number of patients who are natives of India and Burma; the number of new cases from these countries in 1930 being 100 as compared with 38 in 1926.

Staff.—Dr. Foster has been in charge of the male patients during the whole of the period under review, and has been assisted by the assistant medical officer resident at the Infectious Diseases Hospital; Dr. Deacon has had charge of the female patients, being assisted by Dr. Williams.

Prior to 1928 the nursing services at the Municipal Venereal Diseases Clinic held at the Birkenhead General Hospital were provided by the General Hospital Committee. In 1928 this arrangement was discontinued; the work is now carried out by the nursing staff of the Medical Officer's Department, two of the nurses being allocated to this work. The new arrangement has proved satisfactory. At the present time the question of the replacement of the nurses engaged at the male clinic sessions by the appointment of a male orderly is under consideration, and it is hoped that at an early date this change will be effected. There is no doubt that the work at the male clinic sessions is unpleasant at times for female nurses.

Premises.—In 1930 the agreement expired between the Birkenhead General Hospital and the Corporation in respect to the premises in which the Venereal Diseases Clinic was being held, and the Hospital Committee decided to convert these premises into a new department for the hospital. They offered, however, other premises in substitution. Plans of these were submitted and approved; certain necessary alterations were made; and the new premises were taken over in September, 1930. The new accommodation is superior to the old in every way, much more privacy for the patients being ensured.

Female patients.—The increased use of the clinic by female patients is very gratifying, and is no doubt due to the following three factors:—

(1) The assistant medical officer engaged at the antenatal clinic held at No. 9, Hamilton Square, is also in charge of the female patients attending at the Venereal Diseases Clinic.
(2) Close liaison exists between the assistant medical officers engaged at the various maternity and child welfare clinics and the assistant medical officer in charge of the female patients attending the Venereal Diseases Clinic.
(3) Arrangements for propaganda work and the provision of educational facilities have been improved.

Special clinic for children.—A special clinic for children suffering from venereal disease was opened at No. 9, Hamilton Square, in October, 1926. Prior to this, children had to attend for treatment at the Venereal Diseases Clinic held at the Birkenhead General Hospital and mix with adult patients. This arrangement was not a satisfactory one.

The provision of a special clinic has proved most successful. In many cases parents bring all their children at weekly intervals to the clinic, and little trouble is experienced with the children despite the unpleasant nature of the treatment.

The cases treated at this clinic are, of course, chiefly of a congenital type, and a number of very satisfactory cures have resulted.

The number of cases dealt with at this clinic is shown below:—

1926 (3 months only)	1927	1928	1929	1930
28	136	223	279	350

OTHER INFECTIOUS DISEASES.

Smallpox.—Birkenhead still remains remarkably free from smallpox when there is borne in mind the constant danger of infection from ships arriving from foreign ports and the increasing prevalence of the disease in England and Wales generally.

In Birkenhead there was one small outbreak in 1930, consisting of one primary and three secondary cases. Only one of the cases (a man who had not been vaccinated) was severely affected; all ultimately recovered. No cases of smallpox had occurred previously in Birkenhead since 1921.

Scarlet fever—

	1926	1927	1928	1929	1930
Cases notified...... .	250	257	601	420	292
Deaths	1	1	1	4	—

This disease continues to appear in a milder form, few toxic or septic cases having occurred during the last five years.

The method of detecting susceptibility to the disease known as the " Dick " reaction, and the immunisation of susceptible persons against attack, were investigated in 1925 at the Infectious Diseases Hospital, results of considerable value being obtained. The protective inoculation of the nursing staff of the hospital against scarlet fever was begun in 1926.

In 1928 an investigation was made for the purpose of ascertaining the usefulness of the serum treatment of scarlet fever, half the cases without any special selection on admission to hospital being treated with serum, the other half being put on ordinary treatment; two groups of cases presumably equal in all other respects being thus obtained. The results, which were tabulated in the 1928 annual report, showed a lessening of the period of stay in hospital, and of the incidence of complications, in those who had received treatment by serum. Its use was accordingly adopted as a routine practice in 1929.

It is possible that the use of serum has brought about a reduction in the death rate and a lower incidence of complications arising from the disease.

Diphtheria and membranous croup.

	1926	1927	1928	1929	1930
Cases notified	137	166	142	105	256
Deaths	8	8	7	3	26

During the past year there has been experienced the most severe recrudescence of diphtheria since 1925, an experience shared with many areas of England and Wales. As often happens in epidemics, the type of case also has been more severe, many toxic and rapidly advancing cases having occurred.

The methods of detecting susceptibility to this disease (" Schick " testing), and of immunising susceptible persons against attack, which were investigated in the Infectious Diseases Hospital during 1925, have since been applied to those who wish it at the various municipal clinics; and have undoubtedly prevented many children from developing the disease. About 450 persons have been thus immunised, and no one who has had the three injections necessary has since, so far as is known, contracted diphtheria. The immunisations, however, will have to be conducted on a much larger scale before an epidemic can be influenced to any appreciable extent. Until this is effected, the most fruitful methods of dealing with an outbreak of this disease would appear to be the swabbing of throats of all cases which are at all suspicious, and of all contacts with known cases; and the administration of antitoxin in small doses to intimate contacts, *e.g.*, children in the same family with known cases.

Diagnosis and serum treatment in the early stages, before the disease has reached the advanced stage that is so refractory to all known forms of treatment, is the ideal to which to aim. For this purpose supplies of throat swabs and antitoxin are issued to medical practitioners on request.

Typhoid fever.

	1926	1927	1928	1929	1930
Cases notified.........	19	5	9	15	16
Deaths	1	—	1	3	—

Although greatly reduced in incidence in recent years, this disease still appears sporadically, possibly introduced by mild unrecognised cases and carriers, or by infection conveyed on lettuce, etc., imported from Continental countries. In Birkenhead the majority of the cases have been of the paratyphoid B type.

Measles and whooping cough.

Deaths	1926	1927	1928	1929	1930
Measles...........	14	7	16	36	3
Whooping cough ...	12	10	19	24	19

As these diseases are not notifiable the number of cases occurring annually cannot be stated. Both are highly infectious and especially dangerous to very young children. There is still a tendency among parents to regard them—particularly measles—as diseases which it is practically impossible for children to escape, and consequently to treat them as of little importance. The practice of confining children who are unaffected in the same room as a child suffering from measles or whooping cough so that " they can all have it and be done with it " is strongly to be deprecated. Though the death-rate may be small, it is in no way representative of the extent of the permanent damage to general physique which follows the visitation of these diseases.

Skilled nursing under hygienic conditions is essential for the severer cases of measles and whooping cough. It is hoped that treatment for such cases will be provided at the Infectious Diseases Hospital when the accommodation of the hospital is enlarged in 1931.

Encephalitis lethargica.

	1926	1927	1928	1929	1930
Cases notified.........	7	7	13	13	2
Deaths	4	3	8	9	3

The chief importance of this disease continues to be found in the frequency with which the cases are left with permanent damage to the brain, showing itself in the form of deterioration of character and habits. Previously exemplary children often become extremely refractory and difficult to educate, and some are permanently incapacitated with paralysis of various descriptions.

Pneumonia.

	1926	1927	1928	1929	1930
Cases notified.........	294	467	573	610	416
Deaths	167	211	226	308	205

Pneumonia still continues of high prevalence and remains one of the main causes of death. While it must be remembered that it is often a complication of some other condition, and is usually of low-grade infectivity, it nevertheless presents an urgent public health problem. Although much good work is being done along specific lines of treatment dependence is still principally placed upon skilled nursing under hygienic conditions.

Many cases of pneumonia are admitted to the wards of the Birkenhead Infirmary and the Birkenhead General Hospital; in the case of a patient who has to be nursed at home the health nurse for the district visits the home on receipt of the notification and, if necessary, arranges for nursing aid to be supplied by the Birkenhead District Nursing Society.

The Infectious Diseases Hospital—Several important developments and changes have occurred in connection with the work of the hospital during the past five years.

(*a*) Reference is made in another part of this section to the use of the "*Schick*" *test* for the determination of susceptibility to diphtheria and to the arrangements in force for the provision of *immunisation*.

(*b*) The building of *garages* for the two motor ambulances and the bedding van was completed in 1926.

(*c*) During 1926 a second *ambulance driver* was appointed. The residences of both drivers have been connected by telephone with the hospital to expedite the admission of urgent cases occurring at night or during week-ends.

(*d*) A *rubble tennis court* was laid down in 1927 for the use of the staff.

(*e*) An agreement was made in 1929 with Liverpool Corporation whereby cases of *smallpox* occurring in Birkenhead would be removed to Liverpool hospitals. 4 cases were so removed in 1930.

(*f*) During 1929/1930 the old *hydro-extractors and washing machine* in the laundry were replaced by new ones, and *fire extinguishers* of a more modern type were installed in 1930.

(*g*) In June, 1930, an *automatic telephone apparatus* connecting up all buildings was installed, and has proved of great assistance in the efficient working of the hospital.

(*h*) A *new pavilion* to increase the accommodation for infectious diseases was decided upon in 1928 and erection began in 1930; it is expected that it will be opened in 1931. It is planned to accommodate 30 beds (16 in one wing and 14 in the other). The two wings are arranged in V-shape facing south with a covered verandah extending the whole length of the building, and above the central kitchen there is a large playroom for convalescent children. The provision of this pavilion will increase the accommodation of the hospital to 118 beds.

MUNICIPAL LABORATORY.

In the last Survey Report it was recorded that the municipal laboratory, which in 1920 was dealing with little beyond the examination of sputum of patients attending the tuberculosis clinic, by 1925 was capable of handling a considerably greater variety of work. Additional equipment had been provided; throat swabs and other specimens from the Infectious Diseases Hospital were dealt with; samples of water were examined and reported on; and a beginning had just been made with the bacteriological examination of "graded" milks.

Stress was laid, however, on the probability of much greater demand being made upon laboratory work in the future. "More investigations should be carried out in connection with milk, with the object of securing more satisfactory conditions locally and of contributing data as to the state of the general milk supply." "The equipment and organisation of a municipal laboratory should be available for the investigations of other conditions than those which are in the category of infectious diseases . . . the community would benefit by such an extension of scope." The need for the provision of laboratory facilities in connection with National Health Insurance work was indicated, and the hope expressed that these would be closely associated with the laboratory work already established. "It would be unsatisfactory if a doctor had to leave, say, a diphtheria swab in one laboratory and take a blood film to another." And it was pointed out that whatever facilities were to be provided should be easily accessible, so that personal contact between doctor and pathologist might be easily established and the discussion of cases facilitated.

During the past five years work has been proceeding steadily, although no great extension in scope or amount has taken place. Only a small portion of the time of one of the Assistant Medical Officers

(Dr. Leete) could be spared for the laboratory; and the nature of the premises available, inadequate in size and unsuitable in situation, has not only made any further development impossible but has, indeed, seriously handicapped the work already undertaken.

The passing of the Local Government Act, 1929, however, brought into prominence another aspect of the laboratory requirements of the area, and the urgent need for a further step forward became obvious. This Act, to which detailed reference is made elsewhere in the present report, foreshadowed the absorption of the medical functions of Boards of Guardians into the general public health service. In Birkenhead, the taking over by the Town Council of Tranmere Infirmary meant the assumption of liability to provide facilities for bacteriological and biochemical investigations on behalf of many patients who enter this 600-bed hospital for treatment—some 3,200 annually. The need for this provision had been emphasised by the Medical Superintendent, Dr. French; and when the method to be adopted came to be discussed it was apparent that this work should be fused with the other similar work already being carried out by the municipality.

The Council decided that the time had come for the provision of up-to-date laboratories, and for the appointment of a specially trained bacteriologist and biochemist. (It could with justification be urged that the advance of knowledge in the science of biochemistry in the past few years has been so remarkable that the extension of the municipal laboratory work to include biochemical investigations would have been highly desirable, even without the taking over of Tranmere Infirmary.) In 1930, when a vacancy occurred on the staff as a result of Dr. Leete leaving to fill a post elsewhere, the opportunity was taken to appoint an Assistant Medical Officer with these special qualifications; Dr. J. Morrison Ritchie was selected, and took up duty on 1st October of that year.

The provision of new laboratory premises will call for much careful thought and consideration. They will, probably for a generation, be the centre in which will be carried out investigations of the utmost importance affecting directly or indirectly the health and the lives of all the inhabitants of the Borough.

These will fall into three main groups :

1. Researches of a general nature, relating, for example, to the water supply; the purity of milk and other foods; cases of food poisoning; outbreaks of infectious disease.
2. Investigations in connection with individual patients under treatment at the Corporation's hospitals and clinics.
3. Examinations which are asked for by medical practitioners on behalf of patients unable to have these done elsewhere, and which may be invaluable as a guide to diagnosis or treatment.

It would be impossible within the scope of this report to give any comprehensive description of the many and varied tests which will be carried out at the laboratory in the interests of the sick. But reference to a few may serve as an indication of the usefulness of the work.

(a) *Cancer.*—This is in a large proportion of cases a curable disease. The difficulty lies in securing sufficiently early recognition; most cases are diagnosed so late as to be hopeless. If patients are encouraged to go to a doctor as soon as symptoms appear, and if there are provided for the doctor full and efficient laboratory facilities, then early diagnosis is possible, radical treatment can be applied, and our death-rate from malignant disease will be greatly reduced.

(b) *Diabetes.*—Until quite recently regarded as a hopeless condition, diabetes is a disease which is now amenable to treatment. The new preparation, insulin, has saved many lives and made existence tolerable to thousands. The efficient administration of this drug depends on the laboratory. The biochemist estimates at regular intervals the sugar in the patient's blood, and according to his findings the clinical worker determines accurately the dosage of insulin required.

(c) *Tuberculosis.*—In adult tuberculosis, the patient's life is dependent on early diagnosis. Not one examination of sputum, but examinations repeated again and again, should be made in every case where there is the slightest suspicion of pulmonary tubercle. This procedure is tedious, but it often happens that in the early case—the case which can be permanently benefited, and probably cured, by sanatorium treatment—diagnosis can only be arrived at by the actual finding of the bacillus.

(d) *Operation deaths.*—Everyone has heard of cases where " the operation was successful but the patient died." Many such deaths are due to unsuspected kidney disease, the presence of which has not been evident until after the operation. In cases where there is any suspicion whatever of such a complication existing, it is now possible to carry out a laboratory test *before* the operaton, the result of which will indicate clearly to the surgeon whether it is safe to go on, or whether he should wait until the kidney function has been rendered efficient.

MENTAL DEFICIENCY.

In my last Survey Report I stated that, owing to the dearth of institutional accommodation for mentally defective persons, a proposal for the formation of a Joint Committee for the County of Cheshire with a view to providing an institution was in preparation. This Committee came into being in 1926 and at a series of meetings the representatives of the authorities concerned fully discussed the whole question.

In January, 1928, the Minister of Health made an Order under section 29 of the Mental Deficiency Act, 1913, constituting the " Cheshire Joint Board for the Mentally Defective," to consist of representatives of the following authorities:—

The County Council of the Administrative County of Chester ;
The County Borough Councils of Birkenhead, Chester and Wallasey.

The Order provided that the number of mentally defective persons for whom accommodation should be provided should not exceed 500.

Provision was also made that the expenditure of the Board should be borne in the following proportions :—

The County Council of Chester	262/500
The County Borough Council of Birkenhead	125/500
The County Borough Council of Chester	50/500
The County Borough Council of Wallasey	63/500

Endeavour was then made to acquire a suitable site upon which to erect the proposed institution, and after visits by representatives to various parts of the county it was finally decided, in 1929, to purchase the Cranage Hall Estate, about 287 acres in extent, at Cranage, near Holmes Chapel. Following upon the preparation of plans for the lay-out of the estate, and as a result of conferences between the Cheshire Joint Board, representatives of the Board of Control, the Medical Officers of the constituent authorities, and the architects, it was decided in 1930 that, in addition to providing accommodation for 500 patients as approved by the Order, provision for a further 500 patients should be made. It was also decided that, for the first stage of the Colony (to accommodate 500 patients), the Hall itself would serve as the official block and possibly the stores. When the colony is extended to accommodate 1,000 patients a new official block and stores will be necessary, the Hall thereafter being used as a hostel for a group of the highest grade female patients or for some similar purpose.

Plans for the lay-out of a colony for 1,000 defectives are being prepared and it is hoped that the first instalment of buildings will be put in hand at an early date.

Birkenhead's proportion in the original scheme for a joint institution of 500 beds was one quarter—that is, 125 beds. Now that an increase of accommodation has been decided upon it may be decided that a revised allocation should be arrived at, say on a population basis, and the Order amended accordingly. The report of the Joint Committee of the Board of Control and Board of Education issued in 1929 states that the incidence of mental deficiency in rural districts is higher, per 1,000 of the population, than in urban districts. The report says "The total incidence of mental deficiency in urban districts is 6.7 and in rural areas 10.49 per total population; that is the rural incidence is about 56% higher than urban." The population of the constituent authorities at the time of the 1921 census was as follows :—

Administrative County of Chester ...	625,277	69.3%
Birkenhead	145,577	16.1%
Chester	40,802	4.6%
Wallasey	90,809	10.0%
	902,465	100.0%

It is doubtful if Birkenhead will require 25% of the new accommodation to be provided in the new institution, that is, 250 beds. From the available figures, it may be assumed that the ascertainment of the incidence of mental deficiency is more complete in Birkenhead than in the administrative county area, and the county will, no doubt, require more beds than those estimated for in the original scheme. Mutual discussion will, no doubt, lead to a satisfactory decision on this point.

With a view to securing accommodation for a number of urgent cases requiring institutional treatment, pending the new joint institution becoming available, an application was made by the Birkenhead Public Assistance Committee to the Board of Control in 1930 for their sanction to an increase in the accommodation for mentally defective persons at the Birkenhead Infirmary being made from 12 to 24, but the Board had arrived at no decision with regard to this application by the end of the year.

WELFARE OF THE BLIND.

There was no change in the administrative arrangements in connection with the welfare of the blind of the Borough until an amended scheme was passed by the Town Council in July, 1928, and came into operation on the 1st September of the same year. Full details of the scheme were published in my annual report for 1928. The principal effective provisions were the appointment of the Blind Persons Act Sub-Committee of the Health Committee and the grant of financial assistance to necessitous blind persons ordinarily resident in the Borough (to an extent sufficient to bring the income of a blind person up to 27/6 per week).

The number of persons registered as blind on the 31st December during the respective years under review was :—

1926	1927	1928	1929	1930
148	167	219	251	311

It will be noticed that there was a marked increase as between 1927 and 1928, the year in which financial assistance was first given; and that further increases have occurred in the subsequent years. A considerable proportion of the new cases consists of persons who should have been on the register previously but regarding whom for one reason or another information had not been received. The figures now available suggest that the incidence of blindness is greater than has been commonly supposed, the name of approximately one person out of every 500 in Birkenhead being on the register of the blind. Of the blind persons on the register at the end of the year approximately 57% were aged 60 and over; of these the cause of blindness in 41% of the cases was cataract. Among the 19 blind persons of 21 years and under there were no cases in which the cause of blindness was ophthalmia neonatorum (a disease of venereal origin). These figures bear out the statement and would appear to support the prediction made in the Advisory Committee's "Handbook on the Welfare of the Blind" issued in 1927 : "In the past, one of the most frequent causes of blindness was disease within a few days of birth. The success of the campaign against ophthalmia neonatorum is steadily reducing blindness from this cause, and consequently, while it may be hoped that the total amount of blindness will diminish, an increase in the proportion of blindness in the higher ages of life may be expected."

Myopia (either simple or associated with astigmatism) was the cause of blindness in over 10% of the cases. It is hoped that the earlier ascertainment of this condition among school children and the provision of special sight-saving classes (it is expected that another of these will be opened in Birkenhead next year) will tend to reduce also the number of persons who become blind from this cause.

The difficulty of providing vocational training and of finding employment reveals the gravest weakness in any scheme for the welfare of the blind. There is a number of persons willing to be, and capable of being, trained and a number who have been trained for whom vacancies at training institutions and workshops do not exist, and to whom perforce financial assistance has to be given. It is obviously desirable, for the sake of the blind people themselves, that they should become as far as possible economically independent, but the achievement of this end presents a problem not easy of solution. Experience has shown that except in very rare instances it is not possible for blind people to compete on equal terms with those who are sighted, and even where they are able to do so the natural reluctance of employers to engage them imposes a handicap of another description. Certain occupations—brush making, mat making, for example—are generally recognised as occupations at which blind persons are especially adept, and in this area at any rate it is probable that in this employment they have practically a monopoly, at least so far as the requirements of public bodies are concerned. The prime difficulty which is then encountered is that the market is not large enough to consume their potential output, and this despite the fact that in a shipping area the demand for such articles as ships' fenders and mats is relatively great. It follows necessarily that the cost of maintenance of a workshop for the blind, with its high overhead charges, may be expected to exceed the income from the sales of material, and that provision of employment for the blind must therefore require assistance from the rates. The number of blind people capable of earning is not large; and it is a matter of rather difficult calculation to estimate whether the cost of maintaining them in idleness would or would not exceed the joint cost of subsidising their earnings and meeting the maintenance charges of a workshop. From every other point of view than that of cost, of course, the provision of employment for those who are capable of being employed is eminently desirable.

HOUSING.

Housing still remains one of the most serious problems confronting the local authority. Considerable progress has, however, been made in the past five years, in spite of many practical obstacles. The Corporation has provided many new houses in its various housing schemes, and programmes for further building have been adopted.

Without this constructional work the removal of slum property is impossible. The one process can assist the other (a) directly, by providing accommodation for the individual tenants who have to leave houses scheduled for demolition, (b) indirectly, by a "moving-up" process. The direct method is beset with difficulties. A Corporation, like any other property owner, cannot afford to build large numbers of houses and let them to tenants who either cannot or will not pay the rental; indeed, a Corporation must in this respect be more careful than a private property owner, because it is making use of public funds. On the other hand, the indirect method is obviously unlikely to come into effective operation until an adequate supply of houses for the area is available, or at any rate in sight; and with the almost complete cessation of the production of working-class houses by the private builder, and with local authorities having to shoulder the work of promoting all such building in their districts, there is no immediate prospect of the supply of new houses meeting the demand.

The unpalatable fact has therefore to be faced, that if slum clearance is to be attempted now and not relegated to the distant future houses must be provided into which the ex-slum dweller can be directly transferred, whether or not he is likely to be a "good" tenant. Disinclination to face this fact has, in the past, resulted in a regrettable obscuring of the issue.

The following is a summary of certain action taken under the Housing Acts for the period 1926-1930 :—

	1926	1927	1928	1929	1930
Number of houses inspected under Housing Acts	1315	1093	1324	1079	1078
Number of houses found unfit but capable of repair ...	1162	941	1100	827	844
Dealt with—*(a) by informal action.*					
Houses made fit by owners	11	7	5	5	6
(b) by action under Housing Acts.					
Notices served	1151	934	1095	822	838
Houses made fit by owners	1347	1055	1084	911	953
Houses made fit by Council in default of owners...	39	31	90	7	—
(c) by action under Public Health Acts.					
Notices served	736	626	453	386	392
Houses made fit by owners	729	619	441	378	389

The following table shows the number of new houses erected in the Borough during the period 1926—1930 :—

	1926	1927	1928	1929	1930
(a) Provided with State assistance under the Housing Acts—					
(1) By the Corporation	251	450	244	—	128
(2) By other bodies or persons.....................	187	88	44	52	—
(b) Others	86	89	122	124	67
Total ...	524	627	410	176	195

Progress with the closing and demolition of the "incurably unfit" type of house is being made; much more slowly than is desirable, however, on account of the difficulty mentioned above of finding alternative accommodation for tenants to be dispossessed. It is hoped that under the provisions of the Housing Act, 1930, acceleration will be possible. Birkenhead does not contain many districts which can suitably be taken as "Clearance Areas" under the Act; but one such area (containing 77 houses) has been scheduled, and is now being dealt with.

As required by the Ministry of Health, a provisional scheme for dealing with unfit or unhealthy houses during the next five years has been prepared, and has received the approval of the Health Committee. This Committee's recommendations have been forwarded to the Council for confirmation.

HEALTH EDUCATION.

Until 1927 an occasional " Health Week," public lectures on the danger and treatment of venereal diseases, and the issue from time to time of a leaflet dealing with such matters as the disease-carrying habits of flies, were practically the only constituents of the very desultory form of health education in which the Council engaged. A growing appreciation of the importance of the dissemination of authoritative information on matters of personal and public health, however, led to the formation in that year of the Merseyside Boroughs Health Education Committee, which took over the responsibility of organising this work throughout the areas of Liverpool, Birkenhead, Bootle, and Wallasey. This Committee shortly after its inception appointed a full-time Lecturer-Organiser (Dr. John Hall, M.A.), to arrange and deliver lectures and talks in schools and works and to organisations such as Trade Union branches, Boys' and Girls' Clubs and Church Guilds.

Up to the end of 1930 Dr. Hall had given 108 such lectures in Birkenhead to audiences totalling 9,058. There is no doubt that continuous propaganda of this kind, which reaches directly and indirectly a large proportion of the population, is much more effective than the intensive campaign carried out in a " Health Week ", which must be heralded by a certain amount of advertisement of a somewhat strident nature if it is to arouse public interest—interest which, unless the propaganda is of a sensational description, is often disappointed. Many of Dr. Hall's lectures are given either as a result of invitations from different organisations or of requests for further lectures from audiences whom he has addressed. The increasing number of these requests provides gratifying evidence of the real interest which is taken when information about health subjects is given in an attractive and authoritative manner.

Advantage was taken of the celebrations in connection with the jubilee of the Borough in 1927 to display in the main shopping thoroughfare a diagrammatic and pictorial exhibition illustrative of the improvement in the health of the town since its incorporation. The exhibition aroused considerable public interest.

In October of the same year was begun the distribution, through the schools and by other means, of the magazine " Better Health." For twelve months 2,000 copies each month were issued from this office; then in October, 1928, the issuing of the journal was taken up by the Merseyside Boroughs Health Education Committee, and the distribution extended to the four Boroughs. The circulation was increased to 2,200 copies monthly. A considerable amount of appreciation has been expressed by parents, and especially by teachers, of the value of a publication of this description.

A special one-week series of lectures and films was held early in 1929 with but indifferent results, despite wide advertising. The smallness of the attendances was partly due, no doubt, to the unusually severe cold that prevailed at the time, but nevertheless supported the belief that the interest of the general public is with difficulty enlisted in intensive public " campaigns " of this kind; and when enlisted it is often of transient value. It has been the experience of our lecturers, too, that though they can be sure of a good audience of members of an organisation which is accustomed to hold regular meetings, those same members will not readily be persuaded to go for similar lectures to any meeting-place other than the one at which they are accustomed to attend.

Reference is made in another part of this Report to the exhibitions of health films shown to school children at the North Health Clinic in 1930 (page 31).

MATERNITY AND CHILD WELFARE.

Some extensions have been made in the maternity and child welfare work in the Borough during the period 1926-30, and several new developments have to be recorded.

North clinic.—The new municipal clinic to serve the northern portion of the Borough was opened in November, 1929, by Sir George Newman, K.C.B., Chief Medical Officer to the Ministry of Health. A detailed description of this clinic appeared in my annual report for 1929.

To this clinic there has been transferred the postnatal work previously carried on at the Brassey Street Mission.

St. Paul's Road clinic.—The increased attendances at this clinic called for two clinic sessions being given to the work in 1927 and onwards instead of one as formerly.

Antenatal clinics.—The attendances at the antenatal clinic held at Hamilton Square became so large that a second session had to be allocated to this branch of the work in 1928. An antenatal clinic to cater for women living in the north end of the town was opened at the North Health clinic in January, 1930.

The number of patients and their attendances at the Hamilton Square clinic is shown below :—

	1926	1927	1928	1929	1930
Total number of attendances	2700	2412	3102	3224	3547
Total number of new cases	483	511	612	639	594
Number in 1st pregnancy	56	85	168	155	147
Number in 2nd or subsequent pregnancy...	310	309	325	385	363
Number not pregnant	117	117	119	99	84

The corresponding figures for the North Health clinic are as follows :—

	1930
Total number of attendances	579
Total number of new cases	100
Number in 1st pregnancy	20
Number in 2nd or subsequent pregnancy	69
Number not pregnant	11

Immunisation against diphtheria.—Commencing in October, 1926, facilities have been offered at all postnatal clinics to infants for immunisation against diphtheria. From the commencement of this treatment at the clinics until the end of 1930, 379 children had received the full immunising course of three injections.

Investigation into the chemical composition of the milk of nursing mothers.—As mentioned in the survey report in 1925, this investigation was undertaken by Dr. Deacon but was not completed in time for any of the results to be included in that report. Below are set out the principal facts elicited:—

1. The fat in the milk varies from 2% to 6%.

2. Babies do not always thrive when there is a high percentage of fat in the milk. In such cases they often suffer from indigestion.

3. The percentage of fat depends principally upon the dietary of the mother, bad feeding leading to a poor fat content. The percentage may be raised by an additional supply of food to the mother.

4. Children thrive best when fed on a milk which contains a medium percentage of fat.

It would, therefore, apppear that where a child is not thriving a chemical examination of the mother's milk may be useful. The result of this examination would show whether it was desirable—

(*a*) to supply food to the mother to raise the fat content; or
(*b*) to lower the fat excess and prevent indigestion by diluting the milk.

Hospital provision.—This is made for cases of complications arising before, during, and after confinement, and of cases of confinement where the home conditions are bad. The agreement with the Birkenhead Maternity Hospital for the treatment of cases of this type has been continued and all patients referred from the clinics have been treated there. The Committee's agreement with the Birkenhead General Hospital for treatment of cases of the above description was terminated at the end of 1927.

Artificial sunlight.—A carbon arc lamp was included in the equipment at the North clinic. This has been regularly in use throughout 1930. 58 sessions were held; the number of cases treated was 117; and the total number of attendances made was 935.

Future developments.—Plans for a *new clinic* in the south of the

Borough have been approved, and it is hoped that similar facilities to those already existing at the north end of the town will be provided. An antenatal clinic is urgently needed in this district.

The need for the provision of *dental treatment* is increasingly evident, especially for expectant mothers, whose health is often gravely affected by bad teeth.

Convalescent treatment for mothers after confinement is often urgently required but is, at present, practically unavailable.

Children Act, 1908.—Work in connection with Part 1 of the Children Act, 1908, for which the Committee became responsible on the 1st April, 1930, was carried out until the end of the year by the existing Infant Life Protection Visitor, a member of the staff of the Public Assistance Committee; arrangements being made for the work to be carried out by the staff of the Medical Officer's department from the 1st January, 1931.

HEALTH OF SCHOOL CHILDREN.

Operative treatment of enlarged tonsils and adenoids.—In June, 1929, an agreement was entered into between the Education Committee and the Birkenhead and Wirral Children's Hospital under which children suffering from enlarged tonsils and/or adenoids received operative treatment at the hospital, treatment being carried out by the hospital's hon. laryngologist. No child was referred for treatment unless the Assistant Medical Officer was satisfied, after careful examination and due consideration of all the circumstances, that the case was one for which an operation was essential. The child was then examined by the laryngologist and a date fixed for the operation. On this date the child was taken to hospital, the operation was performed, and the child taken home by ambulance. Full directions were given to the parents as to preparatory treatment and after care, and a Health Nurse called at the home shortly after the operation to give such advice as might be necessary. Under this agreement 163 children were treated. The agreement was terminated on the 30th June, 1930, a new arrangement having been made under which the operations are now carried out at the Birkenhead Infirmary. The procedure is substantially the same, except that the child is taken into and discharged from the Infirmary the day before and the day after the operation.

The cost to the parent of the operation is 10s. 6d., which may be paid by instalments, or in necessitous cases reduced or remitted at the discretion of the Committee.

Partially blind children.—A special class for children suffering from a high degree of myopia, or from other defects which cause very poor vision (*e.g.*, nystagmus), was opened on the 4th February, 1929. The class is held in the Park Road Temporary Council School, and accommodates principally children living in the south end of the Borough. It is in charge of a teacher who has had special instruction in methods of teaching partially blind children, and special books (with bold print) and apparatus are used. No near work of any description is allowed, with the exception of very brief lessons in writing in ink in script of large size and on paper without lines; all other writing is done on desk blackboards, and instruction in handiwork such as knitting, basket-making and mat-making is given in place of lessons in which a strain on the eyes is involved. It is important that the children should be preserved as far as possible from being stigmatised as "out of the ordinary," and they therefore attend oral lessons at Well Lane School as often as is convenient.

Once each quarter the class is visited by the Assistant Medical Officer, and each child submitted to at least one optical examination at the eye clinic. The average number of children attending the class is fourteen.

The provision of a similar class for children living in the centre and at the north end of the town is an urgent requirement.

Stammering children.—During 1929 the Assistant Medical Officers in the course of routine inspections kept a special record of stammering children. It was found that the number of children suffering from this defect to a greater or less degree was approximately 300. From this number was compiled a list of children suitable by reason of age and of severity of defect for remedial treatment; and this is now provided in special classes which were opened in May, 1930. These classes are in charge of a qualified teacher trained at the Speech Training Clinic at St. Thomas' Hospital, London, and are held on three days a week at Cole Street and Mersey Park Council Schools. The average number of children in attendance is 100; each child attends twice weekly for a period of one hour.

Children whom teachers consider to be suitable for admission to these classes are examined by the Assistant Medical Officer in conjunction with the teacher in charge in the presence of the parents. The classes are examined every three months by the Assistant Medical Officer; the names of those children who appear to have improved sufficiently to justify discharge being notified to the Director of Education.

Treatment of otitis media.—Otitis media is probably responsible in the aggregate for more school time lost than any other condition for which treatment is provided at the minor ailments clinic; it is on record that some children have attended almost daily for considerably over twelve months before material improvement has been effected. The need for more rapid and more certain methods of treating this condition has long been apparent, for the sake both of the patient (for the risk of permanent damage to the structure of the ear is great) and of his schoolfellows, whose nostrils are offended by the unpleasant smell of the discharging ear. Exigencies of accommodation and of time have hitherto, however, precluded the possibility of providing this; but towards the end of 1930 it was found feasible to set aside part of a session weekly at the North Health Clinic for treatment by zinc ionisation. Experience elsewhere in this form of treatment has shown that in some instances one or two attendances for ionisation are sufficient to result in complete cure, while in practically every case benefit is derived. It is hoped to continue with this work on a larger scale, and in this way to cut short a notoriously chronic ailment in children of school age.

The number of children found at routine and special inspections during the period under review to be suffering from otitis media is as follows :—

1926	1927	1928	1929	1930
151	149	206	136	180

Treatment of ringworm of the scalp.—The number of cases suffering from this condition continued to decline during the period under review. Treatment by X-Rays had, a year or two after its initiation in 1922, reduced very materially the accumulation of cases suffering from this condition, and thereafter cases were able to be dealt with very soon after they were found. The shortness of time that elapsed between diagnosis and treatment curtailed greatly that opportunity of the infection of others with which older methods of treatment were associated. By 1929 the number of cases of ringworm was so few that the Committee made an alteration in their agreement with the Birkenhead and Wirral Children's Hospital by which payment was made for the use of the hospital apparatus per occasion instead of per annum, the cases treated during the year being 16. This agreement ended on the 31st May, 1930, and arrangements have now been made for the work to be done at the Birkenhead Infirmary.

A summary of the number of cases of ringworm of the scalp and of the treatment carried out is given below :—

	1926	1927	1928	1929	1930
Number of cases	111	83	67	26	19
Number of cases treated by X-Rays	36	50	36	16	4
*Number of cases treated by other methods	70	29	24	6	13

* A total of 6 of these received private treatment.

Uncleanliness.—The number of examinations of children by the nurses in respect of uncleanliness has steadily risen from 40,433 in 1926 to 66,722 in 1930. Although the number of children reported as requiring attention remains fairly constant, it must be borne in mind that the standard set in Birkenhead is exceptionally high, and that in most cases a notice served on the parents results in the necessary steps being taken at home.

Dental inspection and treatment.—The scheme of dental inspection and treatment has been greatly extended since 1925, with the result that considerably over half the number of children attending elementary schools in the Borough now come within the purview of the scheme. In a little over three years the staff engaged in inspection and treatment has increased from one dental surgeon and one nurse to three surgeons and three nurses; and the appointments in 1928 and 1930 respectively of two female clerks relieved the professional staff of a considerable amount of clerical and statistical work, the extent of which had grown proportionately to the enlargement of the scope of the scheme. This increase in the work of treatment was only made possible by the opening in May, 1930, of additional clinic premises, the house adjoining the original clinic being converted for this purpose.

The proportion of the number of children with dental caries to the total number of children inspected annually has gone up each year :—

1926	1927	1928	1929	1930
61·8	63·0	71·1	73·8	74.4

An analysis of the results of inspections of the various age-groups shows that this increase is explained by the fact that, as the scheme has been extended, fresh groups of children who have not previously had treatment have been brought within its scope. On the other hand, those children who have had the advantage of yearly inspection and treatment show steady improvement.

A marked decline in the incidence of dental caries in the school population, however, can only be expected when the scheme is extended sufficiently to allow of the yearly inspection and treatment of all children throughout the whole of their school life. A still greater decline would be achieved were it possible to deal with the mothers attending the antenatal clinics and with pre-school children.

Treatment of orthopædic defects.—At the time of the last Survey Report the Orthopædic Clinic had been opened for less than two months. Since then there have been several noteworthy developments of the Orthopædic Scheme ; the removal of the clinic to the Birkenhead and Wirral Invalid Children's Association's more commodious new premises in Hamilton Square ; the increase from the beginning of 1929 of the visits of the Surgeon from one to two each month ; the provision of artificial sunlight treatment by the Invalid Children's Association's apparatus ; and the improved facilities for providing massage by the appointment by the Association of an additional masseuse.

Almost all the cases seen by Dr. Martin are referred to him either from the Tuberculosis and Maternity and Child Welfare Clinics or by the Assistant School Medical Officers. The number of new cases ranged from a maximum of 154 in 1928 to a minimum of 102 in 1927 ; the number of re-examinations from a maximum of 676 in 1929 to a minimum of 202 ln 1926. Rather more than half of the total number of new cases were children under school age, but this proportion was preserved in only two of the five years under review. It was expected that the number of children of school age suffering from orthopædic defects would have declined relatively to the number of those under school age ; but the inference to be drawn from the figures is (a) that a large number of infants are not referred to the clinic, (b) that a large number of parents do not take their children to the clinic until they are of school age, or (c) that the clinic has not been in operation long enough to have noticeably diminished the number of infants with crippling defects,

	1926	1927	1928	1929	1930	Total
Under school age	51	49	89	65	68	322
Of school age..	58	45	54	53	71	281

(Excluding tuberculous cases : total 54).

Rickets continues to constitute the largest disease category, but since 1928 the number of children under school age treated for this condition has declined both absolutely and relatively.

1926	1927	1928	1929	1930
31*	28	53	31	27

* Under and of school age.

As a result of the removal of the clinic in 1927 to the Invalid Children's Association's new premises and of the whole-time services of two masseuses becoming available in 1929 it has been possible to undertake very much more in the way of massage and remedial exercises than was formerly the case, the attendances of children for this purpose growing from 1,354 in 1927 to 3,915 in 1930. The Invalid Children's Association has given most valuable assistance to the work of the clinic in the provision of surgical apparatus, artificial sunlight, milks and tonics, and in following up and helping patients who have passed through the stage of active treatment.

There has been a steady decline in the proportion of cases on the register suitable for treatment who have required and received in-patient treatment at the Children's Hospital, Leasowe; rickets being the condition from which the great majority of these cases suffered.

1926	1927	1928	1929	1930
19·0%	8·8%	8·5%	7·9%	4·2%

Ascertainment of cases of mental deficiency.—The procedure in connection with the examination of children suspected of mental deficiency was largely revised during 1930. The name of each case is notified to the Director of Education by the child's head teacher or parent or by an Assistant Medical Officer, and arrangements are then made by the Director and the Medical Officer for an examination to be held at the child's school. This examination usually takes place at the time of the visit of the Assistant Medical Officer for the purpose of a routine medical inspection; or in the case of a child who is not attending any school at one of the clinics. At the examination by the Assistant Medical Officer there are present the child's parent, the head or class teacher and the Inspector of Schools.

It is an essential feature af the new arrangements that, in arriving at his decision as to a child's mental capacity, the Assistant Medical Officer must not be influenced by his knowledge as to the extent of Special School accommodation available for children in any particular category. What is aimed at is that the Director of Education should be supplied with the fullest possible information as to the incidence of mental deficiency, and of mental backwardness, among the school children in the area.

North Health clinic.—Pressure upon the accommodation at the clinic premises at Hamilton Square had increased of recent years to such an extent as to impede the efficient conduct of the work and to make any extensions impossible. On the opening of the North Health Clinic in November, 1929, arrangements were made for children from schools in the north end of the Borough to attend there for medical advice regarding, and treatment for, minor ailments. The number of children on the rolls of these schools is approximately one-third of the number of school children in Birkenhead. The diversion of these cases from the clinic at Hamilton Square has not only relieved the pressure there but has materially reduced school time lost by these children in travelling to and from that clinic.

Medical inspection in secondary schools.—Since 1925 there has been a considerable extension of the work involved in medical inspection in secondary schools by the opening of the Park High School for Boys and the Rock Ferry High School for Boys (both provided by the Local Education Authority) and by the inclusion within the scope of the scheme, at the request of the governors of these schools, of the Higher Tranmere High School for Girls and the Convent F.C.J. Secondary School.

The total number of children on the rolls of the secondary schools in 1930 was 2,085, of whom 1,657 were medically examined.

Film displays.—In November, 1930, a series of films on health subjects, kindly lent by various Health Education Societies, was exhibited at the North Health Clinic to audiences of older children (boys and girls) from schools in the neighbourhood, 660 children attending on a total of 6 occasions. The films dealt in an entertaining way with such subjects as cleanliness, the structure of the eye and immunisation against diphtheria. Great interest in the films was shown by the children, and much appreciation of their usefulness as an adjunct to lessons expressed by teachers. The experiment made it clear that suitable films can invest these and similar subjects with an interest which by other means it is not always easy to secure, and provides ample justification for an extended use of the cinematograph for this purpose.

Interest of parents in the work of school medical inspection.—The attendance of parents at medical inspections has increased each year since 1925—from 66.7% in that year to 76.4% in 1930—and provides gratifying proof of the growing appreciation of the work of the school medical service and of the prime importance to parents of knowledge as to the physical well-being of their children.

GENERAL.

Combined public health premises.—The question of the provision of combined public health premises to house bacteriological and biochemical laboratories, the medical, nursing, inspecting, and clerical staff of the department, certain clinic work, etc., is at present receiving careful consideration.

Extension of Borough boundaries.—On April 1st, 1928, the boundaries of the Borough were extended to include the Parishes of Prenton, Landican, and Thingwall, and part of the Parish of Bidston; the area thus added to the Borough being 2,092 acres, and the added population (estimated) 2,754.

It is anticipated that there will be a further extension of boundaries in 1932, if the proposals of the Cheshire County Council, made under the provisions of sect. 46 of the Local Government Act, 1929, take effect. The Parishes of Noctorum, Upton, and Woodchurch, part of the Parish of Arrowe, and the remainder of the Parish of Bidston may thus become parts of the Borough of Birkenhead. The population of these districts (1931 census) is 3,742—this total includes the population of *the whole* of the Parish of Arrowe (91).

Changes of this kind are not merely matters of interest to the assessor and the cartographer; they have a wider significance. The product that emerges is not the old Borough with a few more or less decorative appendages, like trophies at the belt of an Indian warrior. A new Borough has superseded the old, a new Borough which must be thought of as an organic whole; a Borough with an altered character and bias, a shifted centre of gravity, fresh opportunities, and a different set of problems which will only interest, and be solved by, open minds.

SHORT STATISTICAL SUMMARY.

1930.

Area of the extended Borough	6,016 acres, or 9.4 square miles
Estimated population (at midsummer, 1929)	157,600
Number of persons per acre (density of population)	26.2
Number of houses in Borough at end of 1930	31,287
Number of inhabited houses at time of census, 1921	26,630
Number of families or separate occupiers at time of census, 1921	31,475
Rateable value	£909,400
Estimated product of penny rate	£3,500
Birkenhead rates, 1930-1931	11/3 in the £
Birth-rate per 1,000 of the population	17.8
Death-rate ,, ,,	11.7
Average death-rate for the last ten years	12.1
Tuberculosis death-rate per 1,000 of the population	1.07
Infantile mortality rate (per 1,000 births)	86
Average number of children in elementary schools	22,949
Number of elementary school children medically inspected during year	7,781

*

ADMINISTRATION.

General administrative arrangements.—The detailed arrangements made by the local authority for dealing with various branches of health work—*e.g.*, maternity and child welfare, tuberculosis, etc.—are set out in the appropriate sections of this report.

Staff.—The staff engaged on the work of the department consisted at the end of 1930 of the following:—

Medical Officer of Health and Chief Administrative Medical Officer:

D. Morley Mathieson, M.A., M.D. (Edin), Ch.B., D.P.H.

Assistant Medical Officers:

Mary A. S. Deacon, M.B.E., M.B., B.S., D.P.H.
F. G. Foster, M.A., M.D., Ch.B., D.P.H.
Anna May Williams, M.B., Ch.B., D.P.H.
D. A. Woodeson, M.B., Ch.B., D.P.H.
J. Morrison Ritchie, M.A., M.B., Ch.B., D.P.H.

Dental Surgeons:

P. Wilson Smith, L.D.S., R.F.P.S. (Glasgow).
Eveline M. Warlow, L.D.S. (Liverpool).
W. G. Walch, L.D.S. (Manchester).

Veterinary Officer:

H. Burrow, M.R.C.V.S., D.V.S.M. (Edin.).

Bacteriologists and Pathologists:

J. Morrison Ritchie, M.A., M.B., Ch.B., D.P.H. (Assistant Medical Officer).
*Professor J. M. Beattie, M. A., M.D.

Analyst:

*W. H. Roberts, M.Sc., F.I.C.

Orthopædic Surgeon:

*T. Hartley Martin, M.B., Ch.B.

Inspectors:

Alfred Longstaff (Chief Inspector and Inspector under the Food and Drugs Acts).

H. L. Baty (Housing Inspector), W. H. Tilston, J. Croshaw, G. Wills, W. H. Bates, T. Oversby, A. Greenfield, L. Pinguey, N. Hancock (District Sanitary Inspectors), H. Ault (Workshops, Food and Drugs, etc., Inspector), W. S. Edwards (Infectious Diseases Inspector), J. Jackman (Common Lodging Houses Inspector), Archbell Carnie (Meat Inspector), A. W. Haydock (Assistant Meat Inspector), W. Cameron (Temporary Assistant Meat Inspector).

Matron, Isolation Hospital:

Miss L. Liggins.

Matron, Thingwall Sanatorium:

Miss I. R. Millar.

Health Nurses:

Miss K. Nixon (Chief Health Nurse).
Mrs. L. E. Fletcher (Health Nurse and Inspector of Midwives).
Miss A. G. Adams, Miss J. Beattie, Miss A. G. Evans, Miss M. P. Faulds, Miss C. E. Fox, Miss M. M. Graham, Miss E. Hendley, Miss M. Jones, Miss J. McDonald, Miss G. F. Parkinson, Miss L. Peace, Miss E. Ramage, Miss E. A. Smith, Miss A. I. Steele, Miss J. A. Ward, Miss L. Wilson, Mrs. C. B. Williams.

Clerks:

W. M. Cavers (Chief Clerk). J. Owen (Senior Clerk).
J. Bennett, R. Baker, J. Challinor, N. Wilson, C. Martin, F. Owens, A. G. Davies; A. Barnett (Junior Clerk); Mrs. L. Price, Miss W. Calloway, Miss B. Challinor, Miss C. L. Weston, Miss J. Mathieson, Miss P. Lloyd, Miss E. Shepherd, Miss D. Stephens (Female Clerks), S. Burge, W. Broadhurst (Office Boys).

School Teacher, Thingwall Sanatorium:

Miss A. Bury.

Public Vaccinators:

*H. Laird Pearson, M.R.C.S., L.R.C.P.
*H. Cresswell Pierce, M.A., M.R.C.S., L.R.C.P.
*G. J. French, M.R.C.S., L.R.C.P.

Vaccination Officers:

*S. W. Swan.
*O. R. Lockey.

Other Staff:

Nursing Staff, Isolation Hospital—18.
Domestic Staff, Isolation Hospital—16.
Male Staff, Isolation Hospital—6.
Nursing Staff, Thingwall Sanatorium—7.
Domestic Staff, Thingwall Sanatorium—7.
Male Staff, Thingwall Sanatorium—3.
Assistants on Meat Inspection Work—2.
Laboratory Assistant—1.
Home Teacher (Blind) and Guide—2.

*Not whole-time officers.

SUPERANNUATION SCHEME.

The Local Government and Other Officers' Superannuation Act, 1922, was adopted by the Birkenhead Corporation in June, 1923, and came into operation on 1st August, 1923.

The number of posts in the Corporation service designated as " established posts " for the purposes of the Act was 1,906, of which 1,711 were actually filled at the date on which the Act came into force, and 195 were additional posts. Since the commencement of the scheme 276 new posts have been created, making a total of 2,182.

Medical examinations carried out during 1930.—(a) During the past year 65 examinations of selected applicants for designated posts were carried out.

Department.	Designated Posts
Audit	3
Baths	2
Cleansing	1
Education	3
Electricity	14
Ferries	6
Gas	2
Libraries	1
Markets	1
Medical Officer's	7
Parks	3
Police	2
Public Assistance	2
Surveyor's	3
Town Clerk's	1
Tramways	3
Treasurer's	11
Total examinations	65

NOTE.—In addition to the above there were 11 re-examinations during 1930.

(b) During 1928 special arrangements, as set out in my annual report for that year, were made for the medical examinations of certain tramways employees engaged in a temporary capacity.

During the year 63 employees were medically examined under these arrangements.

COST OF HEALTH SERVICES.

Up to 31st March, 1930, *percentage grants* were paid by the Government to local authorities in respect of their approved expenditure on certain health services.

These grants amounted to:—

(A) 50% of the expenditure on Maternity and Child Welfare, Tuberculosis, and Mental Deficiency services; 75% of the expenditure on Venereal Diseases schemes.

(B) 50% of the expenditure on health services for children of school age.

From 1st April, 1930, a new system of "*block grants,*" as distinguished from "*percentage grants,*" came into operation in respect of services included in (A) above. (The grants in respect of services included in (B)—school medical services—continue to be paid as percentage grants, on a 50% basis.)

Section 85 (1) of the Local Government Act, 1929, provides that as from that date *percentage grants* in aid of these services shall cease to be payable. But Section 86 of the Act provides that an annual "General Exchequer Contribution" shall be paid to local authorities, and that this annual block contribution shall include a sum equal to the amount of the total losses incurred by local authorities as a result of the discontinuance of these percentage grants; the annual amount for the period 1st April, 1930—31st March, 1933, being based on the approved expenditure for the year 1928-29 (known as "The Standard Year").

Although, therefore, it can no longer be said that a certain fixed proportion of the cost of the various health services of the Birkenhead Corporation is recoverable in the form of percentage Exchequer grants, it is quite correct to say that a definite contribution is received annually in respect of these services. In the "General Exchequer Contribution" this amount is not specifically indicated; but it may be assumed to correspond to the grant earned in 1928-29, the estimated amount of which was £13,466.

The estimated gross cost of the health services for the year 1930-1931, excluding the school medical service, is £52,396. Deducting from this the approximate amount in the "General Exchequer Contribution" in respect of the year 1930-1931 which may be set against these health services—£13,466—there is left £38,930, which may be taken as an indication of the net cost on the local rates of the services in question.

The following shows the estimated cost of the various sections of the Corporation's health services for the year 1930-1931:—

	Estimated gross expenditure.
	£
Maternity and child welfare	7,732
Tuberculosis	13,806
Venereal diseases	2,960
Infectious diseases hospital, disinfecting & ambulances	10,148
Meat, food and drugs inspection	2,433

	£
General administration, port sanitary account, housing inspection, municipal laboratory, etc.	9,903
Mental deficiency	3,193
Miscellaneous (vaccination, housing schemes, 1904-1909, etc.)	1,200
	£51,375
Exchequer grants in " Standard Year "	13,466
	£37,909
School medical service	8,487
	£46,396
50% grant in respect of school medical service expenditure	4,243
Approximate net cost to Corporation of Health Services	£42,153

The above approximate net cost corresponds to a rate of 1/- in the £.

TRANSFER OF POOR LAW FUNCTIONS.

GENERAL OBSERVATIONS.

Under the provisions of the Local Government Act, 1929, the Birkenhead Board of Guardians went out of existence on 31st March, 1930, the functions of the Board being transferred to the Birkenhead Town Council.

An *obligation* is laid upon the Council by sect. 5 (1) of the Act to consider the desirability of securing that, as soon as circumstances permit, all assistance which can lawfully be provided *otherwise than by way of poor relief* shall be so provided. The term " assistance " is defined in this Sub-Section as including maintenance and treatment in hospitals and other places; the education of children; and other services which can be provided *either* by way of poor relief *or* by virtue of certain Acts specified in the sub-section. Within the scope of this compulsory review come all the functions *except actual relief* administered prior to 1st April, 1930, by the Board of Guardians.

It should be noted that while the Council must consider the desirability of removing all these functions from the sphere of poor law control, no obligation is imposed actually to effect the change in whole or in part. The section in this regard is permissive and not mandatory. But it is undoubtedly intended that the powers conferred by this section should be exercised where satisfactory facilities exist, and that, where such facilities do not exist, they should be provided at the earliest possible moment. Presumably pressure will in due course be applied to dilatory authorities; and it may be anticipated that ultimately, when time has been given for any necessary adjustments or for the provision of extra facilities where these are required, compulsory legislation will be introduced.

In his Annual Report for 1928, Sir George Newman, the Chief Medical Officer of the Ministry of Health, refers as follows to the obligations imposed upon County and County Borough Councils by the Local Government Act, 1929. " A clear direction is thereby given that the process known for the last twenty years as the ' break up of the Poor Law ' shall be put in hand in a practical manner and carried so far as the existing law and the prevailing circumstances allow. In other words, the Act leads directly to a more or less complete unification of the public health services, environmental and personal. . . . The Act provides for the absorption of the Poor Law Medical Service within the Public Health Service. . . . It will fail in its purpose if its operation is limited to the transfer of Poor Law powers *en bloc* to Public Assistance Committees. Above all, full use should be made of the opportunity for co-ordinating the transferred functions with the public health activities already exercised by County and County Borough Councils."

It will here be of advantage to indicate briefly the forms of assistance which have hitherto been provided in Birkenhead by way of poor relief but which can lawfully be provided otherwise; and the various sources of the Council's powers.

(*a*) *Hospitals* (*General and Maternity*).—Under the Public Health Act, 1875, sects. 131 and 133, the Council may provide hospitals for the use of its sick. It may build such a hospital; contract for the use of such a hospital; or enter into an agreement for the reception of its sick with any persons having the management of a suitable institution. By sect. 64 of the Public Health Act, 1925, this includes the right to make reasonable subscriptions or donations to a voluntary hospital. The power thus given to provide places for the reception of the sick is extended by sect. 14 (2) of the Local Government Act, 1929, to include power to provide places for the reception of pregnant women—an important extension.

(*b*) *Medical assistance.* Under sect. 133 of the Public Health Act, 1875, the Council may provide, or contract with any person to provide, medical assistance for the poorer inhabitants of its district.

(*c*) *Care of the mentally defective.*—Under sect. 30 of the Mental Deficiency Act, 1913, the Council are empowered, and indeed required, to provide for mental defectives belonging to Birkenhead suitable accommodation, maintenance, etc. But the section contains a proviso that nothing in the Act " shall affect the powers and duties of poor law authorities under the Acts relating to the relief of the poor, in respect to any defectives who may be dealt with under these Acts." The effect of this proviso is that defectives who are of poor law class *may* still be dealt with by the Council as a Poor Law Authority, acting through its Public Assistance Committee. The Council is, however, empowered by sect. 5 of the Local Government Act to declare that in future *all* mental defectives belonging to this area will be dealt with under the Mental Deficiency Acts and not under the poor law acts.

(*d*) *Care of persons of unsound mind.*—Under sect. 19 of the Mental Treatment Act, 1930, which section is now in operation, provision is made that in any case in which a person who is or is alleged to be of unsound mind is liable under the Lunacy Act, 1890, to be removed to or detained in a workhouse, he may, under the like conditions, and subject to the like procedure, be removed to or detained in any such hospital or part of a hospital provided by the Council under the Public Health Act, 1875, as the Council may approve.

(*e*) *Maternity and child welfare.*—Under the Maternity and Child Welfare Act, 1918, the Council have powers to make arrangements for attending to the health of expectant mothers and nursing mothers, and of children under five years of age. And, as mentioned above, sect. 14 (2) of the Local Government Act, 1929, confers the power to provide hospital accommodation for expectant mothers.

(*f*) *Care of the blind.*—The Blind Persons Act, 1920, confers upon the Council the power to make provision for the welfare of all blind persons ordinarily resident within the area of the Borough. Poor Law Authorities had a similar power in respect of poor persons under sects. 34 and 67 of the Poor Law Act, 1927.

(*g*) *Tuberculosis.*—The Council have powers under sect. 131 of the Public Health Act, 1875, to provide hospital accommodation (which may be taken to include Sanatorium accommodation) for persons suffering from tuberculosis. Powers for the assistance of persons suffering from tuberculosis are conferred by the Public Health (Prevention and Treatment of Disease) Act, 1913, sect. 3; and the Public Health (Tuberculosis) Act, 1921, sect, 2, enables the Council to make such arrangements as they may think desirable for the *aftercare* of persons who have suffered from tuberculosis. Poor Law Authorities had similar powers under sect. 34 of the Poor Law Act, 1927, in the case of persons who were poor and unable to work—powers of aftercare as well as the general power of relieving those suffering from the disease.

(*h*) *Education.*—Poor Law Authorities had powers under sect. 78 of the Poor Law Act, 1927, to resolve that they should have all the rights of parents in respect of any child who was maintained by them and satisfied certain other conditions. Among their duties they had to provide for the education of such children. Sect. 5 of the Local Government Act, 1929, conferred upon the Council the power of declaring that the education of poor law children shall be provided for under the Education Act and not under the poor law. The provision of medical treatment and food for such children is permitted under sects. 80 to 85 of the Education Act, 1921.

" DECLARATION " AND " APPROPRIATION."

As has been indicated above, it is clearly within the power of the Council to decide, and formally to " declare " under sect. 5 of the Local Government Act, 1929, that all forms of assistance with the exception of actual relief (*i.e.*, monetary relief, shelter, etc.) hitherto provided by the Board of Guardians and by the Council through its Public Assistance Committee will in future be provided not as poor law services but as general services under the Public Health (etc.) Acts. Such a declaration would at once remove from the realm of the poor law all the services concerned. This step has already been taken in certain areas.

A *partial* declaration, affecting a small portion of the transferable services, has already been made by the Council, in its scheme which was submitted to and approved by the Ministry of Health. For reference purposes, the essential portion of this declaration is set out below. " It is hereby declared that all assistance to necessitous persons for which provision is made in the services set out in this clause shall be provided exclusively by virtue of the Act or Acts under the heading of which the service is set out and not by way of Poor Relief:—

Public Health Acts, 1875 *to* 1926, *as extended by sect.* 14 (2) *of the Local Government Act,* 1929 :—

The provision for the use of inhabitants of the County Borough of hospitals for the reception of persons suffering from notifiable infectious disease other than tuberculosis.

Mental Deficiency Acts, 1913 *to* 1927 :—

Arrangements for the proper care and maintenance, elsewhere than in institutions, of defectives subject to be dealt with under the Acts.

Maternity and Child Welfare Act, 1918 :—

The provision of milk and other food for expectant and nursing mothers and children medically certified to need additional nourishment : " children " meaning children who have not attained the age of five years and are not being educated in schools recognised by the Board of Education.

Blind Persons Act, 1920 :—

The provision of domiciliary assistance to blind persons.

Education Act, 1921 :—
The education of children.

It was further declared in the scheme that it was the intention of the Council *as soon as their resources permit* that all forms of assistance which can be provided under the Public Health Acts, 1875 to 1926, the Maternity and Child Welfare Act, 1918, the Blind Persons Act, 1920, and the Public Health (Tuberculosis) Act, 1921, in so far as they are not covered by the preceding declarations, should be provided exclusively by virtue of those Acts instead of by way of poor relief, and should be administered by the appropriate Committee or Committees of the Council in conjunction with their existing duties.

The Council, it will be seen, are therefore committed " as soon as their resources permit " to supplementing this partial declaration, and ultimately to making a complete declaration covering all services which can lawfully be removed from the ambit of the poor law. The question as to whether the Council is now in a position to extend or complete this declaration is dealt with later in this Report.

Another important power which the Council possess, and which they may decide to utilise whether or not any further declaration is made at the present time, must now be mentioned.

This is the power conferred by sect. 95 of the Public Health Amendment Act, 1907, which section is in force in Birkenhead, to *appropriate,* subject to the approval of the Minister of Health, any land owned by the Council and not required for the purposes for which it was acquired. The term " land " includes, for the purposes of the section, any buildings erected on the land.

Under this section a Council may appropriate for the purpose, say, of the Public Health Acts a hospital which has been transferred to them by a Board of Guardians and which was originally acquired or built for poor law purposes. When such a proposal to appropriate a hospital is submitted to the Minister of Health, the Minister will require to be satisfied :—

(a) that the continued use of the hospital for its present purpose will not be required to enable the Council to discharge their functions under the Poor Law Act, 1927;

(b) that the hospital is required, and suitable, for the purpose for which the Council propose to appropriate it.

MATTERS NOW CALLING FOR CONSIDERATION.

As I have stated, the Council is committed to supplementing and completing its declaration under sect. 5 of the Local Government Act, 1929, at the earliest possible date. But before deciding that any further declaration should be made at the present time the Council should feel assured that all necessary facilities are available for carrying out the services concerned. Otherwise the Committee (or Committees) made responsible for maintaining the services on behalf of the Council will be placed at a disadvantage at the outset.

The main services concerned are those to which the following reference is made in the Council's ' Administrative Scheme ' made under sect. 4 of the Local Government Act, 1929 : " It shall be the duty of the Public Assistance Committee . . . to report to the Council not later than the 1st April, 1931, as to the arrangements which can be made for transferring " certain services, namely :—

The provision of hospital treatment for sick persons.
The provision of institutional treatment for tuberculous cases.
The provision of hospital treatment for pregnant women and children under 5 years of age.
The provision of a doctor, a midwife or a nurse in cases of pregnancy or illness during the period of confinement.

Reference to these services is made below, and also to certain other services, namely :—

The care of the mentally defective.
The care of cases of mental illness, and of persons of unsound mind.
The provision of domiciliary treatment for the sick poor.

Three of the services mentioned above—the provision of hospital accommodation for sick persons; the provision of institutional treatment for tuberculous cases; and the provision of hospital treatment for pregnant women and children under 5 years of age may conveniently be taken together. These three services are provided at Tranmere Infirmary; the problem of their transfer is the problem of the transfer of this institution.

In many areas difficulties have been experienced in transferring poor law hospitals, owing to these being administered in such intimate contact with " the house " that separation is almost impossible. Buildings are used for dual purposes, and services such as cooking, heating, the control of stores, etc., are provided in common. No serious difficulties exist at Tranmere. The ward blocks of the Infirmary are geographically distinct from the Institution, and a boundary between the two could be clearly defined; the maternity block is also easily separable. There are separate kitchens. The control of stores is already kept apart, the Infirmary Steward looking after the Infirmary stores, and the Master taking charge of those of the Institution. Nursing and domestic staffs are separate. The arrangement whereby the washing of the Infirmary is done at the Institution could be continued in the event of separation, subject to the condition that hosptial standards were maintained to the satisfaction of the Matron of the Infirmary. The responsibility for the control of the ambulances which at present lies with the Master could be transferred to the Medical Superintendent.

(It may be noted that the Infirmary is already formally recognised by the Minister of Health as a separate establishment for the reception and maintenance of the sick, or persons requiring maternity treatment.)

No difficulty, then, need be anticipated in connection with the transfer of the Infirmary to the Health Committee, the Institution being left in the control of the Public Assistance Committee.

I am not, however, prepared to advise at the moment that a *declaration* should now be made to the effect that *all* the Corporation's hospital services shall henceforth be provided through the public health acts. Such a declaration might conceivably give rise to some practical difficulties, and would not readily be approved at this stage by the Ministry of Health.

But on the other hand the Council might with advantage consider whether steps should now be taken to *appropriate* Tranmere Infirmary for the purposes of a Municipal Hospital, to be administered as an integral part of the Council's public health service.

This would not involve any revolutionary change in the actual working of the Infirmary. The same Birkenhead patients would be admitted; they would, however, no longer be classified as " poor law " cases but as ordinary patients, in the same way that patients are admitted to a voluntary hospital. " Settlement " cases, on the other hand, would be classified on admission as Poor Law cases; and Wallasey patients would be admitted as " contract " cases, under an agreement with the Wallasey Public Assistance Authority.

The Public Assistance Committee would be relieved of responsibility for all Birkenhead patients admitted to the hospital. There would remain with this Committee (until a *declaration* with regard to the hospital services is made by the Council) a general responsibility for any cases for whom accommodation could not be found in the Infirmary; but I am informed that there is no record of such additional accommodation having been required in the past.

The experience gained of administration of the Infirmary under the public health acts would no doubt enable the Council to proceed to a declaration at some later date.

Maternity services (other than hospital treatment).—The provision of a doctor, a midwife or a nurse in cases of pregnancy or illness during the period of confinement is already made by the Council, and of this provision advantage is taken by all classes of suitable cases, including the very poor.

In the event of Tranmere Infirmary being " appropriated," there would appear to be nothing to prevent a declaration being made forthwith in respect of these services.

Care of the mentally defective.—In the Council's administrative scheme the following references are made to the care of mentally defective persons :—

(a) " The functions of the Public Assistance Committee in so far as they relate to . . . the care of mentally defective persons shall be discharged, on behalf of and subject to the general direction and control of the Public Assistance Committee, by the Mental Deficiency Committee of the Council."

(b) " Until the accommodation to be provided by the Cheshire Joint Board for the Mentally Defective is available for the cases at present detained at the Tranmere Institution, the Public Assistance Committee shall reserve at the latter Institution for residents of the County Borough 24 places for adult mental defectives of either sex."

The decision of the Council indicated in (a) amounts to an instruction that the Public Assistance Commttee shall cease to make *direct* provision for mentally defective persons as such; all such cases must be referred to the Mental Deficiency Committee, which Committee will make any necessary provision on behalf of the Public Assistance Committee.

But the Mental Deficiency Committee have hitherto found it quite impossible to secure, in suitable institutions throughout the country, accommodation for all the mentally defective persons belonging to the area. Hence the provision in (b) above, retaining *temporary* accommodation for some, at least, of the unplaced cases in the Birkenhead Institution.

When the Cheshire Joint Board for the Mentally Defective have provided a colony for defectives at Cranage Hall, accommodation will be available there for *all* cases from Birkenhead, and it will no longer be necessary to retain accommodation in the Institution.

The Council will probably feel that a full declaration with regard to mentally defective persons cannot be made under sect. 5 of the Local Government Act until full accommodation at Cranage Hall is forthcoming; and take every opportunity of urging the Joint Board to carry out their task with expedition.

Care of cases of mental illness, and of persons of unsound mind.—A careful review should be prepared of the patients for whom provision is made by the Public Assistance Committee in the light of the Council's new or revised powers and duties under the Mental Treatment Act, 1930. The power conferred by sect. 19 of the Act to deal with rate-aided (formerly "pauper") mental patients in hospitals instead of in workhouses has already been mentioned.

The provision of domiciliary treatment for the sick poor.—Medical out-relief or domiciliary treatment is now provided by part-time district medical officers on the staff of the Public Assistance Committee. The closest possible relationship should be developed between this work and the work of Tranmere Infirmary. This is a subject which calls for careful consideration; the establishment of out-patient centres run in association with hospital treatment should also be considered.

The transference of domiciliary treatment to the Health Committee, acting on behalf of the Public Assistance Committee, should be considered.

MUNICIPAL AND VOLUNTARY HOSPITALS.

General consideration of local hospital arrangements.—A provision of the Local Government Act, 1929, which must be kept carefully in view is that contained in sect. 13. This requires the Council " when making provision for hospital accommodation " to consult committees representing the governing bodies and medical staffs of voluntary hospitals in the area. One of the first actions of the Public Assistance Committee after it came into existence was to call a conference of representatives of local hospitals. This met on 13th March, 1930, and as a result of a general discussion certain preliminary arrangements were agreed upon. It is to be hoped that other conferences will take place, and that it will be found possible to make arrangements of mutual benefit to the voluntary hospitals committees and to the Corporation.

Available hospital accommodation.—A tabulated statement as to the hospital accommodation available in Birkenhead is given below. In addition, many hospitals and institutions in the Liverpool area admit and treat Birkenhead patients.

BIRKENHEAD (TRANMERE) INFIRMARY.

Children's medical	75
Isolation medical	20
Female medical	111
Female venereal	12
Female cancer	10
Gynæcological	11
Female phthisis	17
Maternity	26
Babies	11
Surgical (girls under 16)	10
Female surgical	45
Male surgical	92
Male medical	64
Boys' medical	27
Male venereal	12
Male cancer	16
Male phthisis	37
	596

This allocation is approximate only. It is in no sense rigid, but is subject to alteration from time to time to meet the needs of the infirmary.

BIRKENHEAD INFECTIOUS DISEASES HOSPITAL.

Infectious diseases and observation—118. This includes the accommodation which will be provided in the new pavilion shortly to be erected.

THINGWALL SANATORIUM.

Tuberculous cases and observation—40. It is possible that additional accommodation will be provided here for non-tuberculous orthopædic cases.

BIRKENHEAD GENERAL HOSPITAL.

Medical	50
Surgical and orthopædic	60
Gynæcological	12
Eye, ear, nose and throat	10
Skin	2
Venereal diseases	4
Casualty (emergency beds)	8
Beds in pay wards	10
	156

The above allocation is not a fixed one and is varied from time to time to meet the circumstances.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.

Beds in winter—45. Beds in summer (with balconies open)—55. Medical and surgical cases in all wards. No ward is specially given up to either type of case. The following figures are a fair average:—

Medical	15
Surgical	24
Emergency	4
Special	2
	45

BIRKENHEAD MATERNITY HOSPITAL.

Maternity cases	31
Sick babies	4
	35

Hospital co-ordination.—It must be admitted that hospital co-ordination presents a difficult and obscure problem. Perhaps if the unattainable ideal is stated first the nature of the difficulties will be more easily appreciated. Given to-day a town with Birkenhead's area, population, and general circumstances, with *no hospitals*, how would its hospital requirements (exclusive of sanatoria, and possibly accommodation for infectious diseases) best be met? Undoubtedly by the provision of one general purposes hospital, with accommodation perhaps for 800—1,000 patients, to serve the needs of every section of the community. A site would be chosen in the healthiest possible environment, well away from the heart of the town, and ample in extent to allow of buildings being put up with free access for air and sunlight, and of the erection of additional wards and other buildings as these become necessary in the future. Such an institution, run in conjunction with emergency accident stations and out-patient centres serving the docks and the thickly populated parts of the town, could be maintained efficiently with the maximum of benefit to patients at the minimum of cost.

Compared with this simple and unified ideal, the real situation which exists, and of which it is our problem to make the best possible use, is a highly complicated one.

One fact which is of primary importance is this:—The governing body of each of the existing voluntary institutions has naturally endeavoured to make its own hospital as nearly as possible complete and independent, however small. This is an entirely praiseworthy endeavour, but it is diametrically opposed to co-ordination, and has the effect of leaving little for co-ordinating effort to act on. Equipment tends to be duplicated, sending up the general cost. Medical, surgical, and nursing staffs tend to be kept separate, and lose the inestimable advantages of consultation and co-operation, and of transfer in circumstances where this might be desirable.

Another material fact is that duplication of effort exists, the same class of case being dealt with in two institutions. Thus provision is made for maternity cases at the Birkenhead Maternity Hospital and also at Tranmere Infirmary. Again, both Tranmere Infirmary and the Birkenhead General Hospital are complete hospitals for general medical and surgical work, and for specialised services such as the treatment of eye diseases. It is not likely that either institution will wish to shed any portion of its work which has been established after much care and thought. What distinction, if any, is to be drawn between patients attending these two institutions?

Difficult as the problem undoubtedly is, every effort should be made, and no doubt will be made, to promote the greatest possible co-operation in the interest of the sick and ailing of all grades and social conditions.

WEATHER.

METEOROLOGICAL STATION, THINGWALL SANATORIUM.

The instrumental equipment installed at Thingwall Sanatorium for the purpose of weather observation is as follows:—

1.—A Stevenson's screen, containing
    (a) Dry and wet bulb thermometers
    (b) Maximum and minimum thermometers.
    These are placed four feet from the ground.

2.—A solar radiation thermometer (black bulb in vacuo), placed on a stand at a height of four feet, with the bulb directed south.

3.—A terrestrial radiation (grass minimum) thermometer. This is placed horizontally over short grass with its bulb freely exposed to the sky.

4.—Earth thermometers, with bulbs suspended at depths of one foot and four feet respectively, beneath the surface of the ground.

5.—A rain gauge (Snowdon pattern) with a receiving surface of five inches diameter. The rim of the gauge is one foot above the ground.

6.—A sunshine recorder (Campbell-Stokes pattern). This apparatus is mounted on the top of the thermometer screen. It is freely exposed to the sun's rays in all directions, and records the duration of bright sunshine.

Daily readings of these instruments are made, and in addition observations are taken as to wind, cloud and other atmospheric phenomena.

The results obtained at the station are set out in the subjoined tables. Special reference may be made to the following facts:—

Temperature.—The mean shade temperature for the year was 46.9 degrees Fahrenheit. The highest temperature recorded in the shade was 85.7 degrees (on 27th August), and the lowest 23.1 degrees (on 21st February).

Humidity.—The mean relative humidity for the year was 83.8% of saturation. The highest monthly mean was 99% (August) and the lowest 44% (March).

Sunshine.—The average amount of bright sunshine per day was 3.23 hours. The sunniest day of the year was the 8th of June, when 15 hours of bright sunshine were recorded. The sunniest months were June (5.8 hours daily average), August (4.7 hours), and May (4.6 hours).

Rain.—The total rainfall for the year amounted to 45.9 inches. Rain fell on 201 days. The heaviest fall in one day occurred on 20th July (1.26 inches). The months with the heaviest rainfall were March (5.2 inches), July (5.3 inches), August (5.3 inches) but the months with the greatest number of rainy days were August (26), October (24), and July and December (20 each).

The month with the least number of rainy days was February (4).

Miscellaneous phenomena.—*Fog* was prevalent on 14 days. *Gales* occurred on 5 days; *Heavy Rains* on 23 days; *Hail* on 3 days; *Sleet* on 3 days; and *Snow* on 4 days.

Frost on the grass was registered on 80 days, and *Frost on the screen* on 25 days.

Four Thunderstorms were recorded during the year—3 in June and 1 in July.

TABLE M 1.

Air temperature.

Month	Mean Temperature (*i.e.* average of max. and min.)	Mean		Absolute Maximum		Absolute Minimum	
		Max.	Min.	Reading	Date	Reading	Date
January	41.45	47.17	35.73	55.00	18/1/30	28.20	28/1/30
February ...	35.70	38.80	32.60	44.00	14/2/30	23.10	21/2/30
March	40.20	44.61	35.80	54.00	28/3/30	26.40	1/3/30
April	46.52	51.87	41.16	64.00	24/4/30	32.50	22/4/30
May	51.00	58.00	44.00	65.60	30/5/30	36.00	10/5/30
June............	56.70	63.70	49.70	79.20	30/6/30	41.00	12/6/30
July	58.91	64.13	53.69	73.60	1/7/30	49.00	6/7/30
August	42.94	65.48	20.40	85.70	27/8/30	45.00	6/8/30
September ...	55.00	60.00	50.00	70.50	3/9/30	42.40	16/9/30
October	51.18	56.27	46.09	63.60	17/10/30	39.00	27/10/30
November ...	42.50	48.00	37.00	58.60	20/11/30	25.80	17/11/30
December ..	40.50	45.00	36.00	54.20	13/12/30	26.00	10/12/30
Means ...	46.89	53.59	40.18	64.00	—	34.53	—

TABLE M 2.

Solar and terrestrial radiation.

Month	Daily Maximum			Grass Temperature		
	Mean	Extreme		Mean	Extreme	
		Reading	Date		Reading	Date
January	67.55	85.00	19/1/30	31.05	22.08	30/1/30
February......	55.63	82.00	16/2/30	26.05	17.00	21/2/30
March	82.00	110.00	29/3/30	32.00	24.00	2/3/30
April	93.67	120.00	4/4/30	36.77	25.00	22/4/30
May	108.52	123.00	28/5/30	40.58	29.00	2/5/30
June	117.00	141.00	29/6/30	46.26	37.00	9/6/30
July	116.00	135.00	27/7/30	50.00	43.00	7/7/30
August	116.45	128.00	27/8/30	50.00	42.00	24/8/30
September ...	102.30	120.00	7/9/30	47.10	36.00	30/9/30
October	95.00	115.00	11/10/30	40.00	31.00	27/10/30
November ...	71.65	95.00	3/11/30	32.19	20.00	17/11/30
December ...	58.00	79.00	27/12/30	32.13	22.10	10/12/30
Means ...	90.31	111.09	—	38.68	29.00	—

TABLE M 3.

Air humidity at 9 a.m.

Month	Monthly Means				Relative Humidity at 9 a.m.	
	Dry Bulb	Wet Bulb	Dew Point	Relative Humidity	Greatest	Least
January	40.77	39.09	36.90	85.52	98.00	68.50
February	36.13	34.15	31.18	80.80	98.00	62.00
March	41.00	38.90	36.17	82.08	98.00	44.00
April	46.70	44.10	41.24	80.18	93.00	63.00
May	52.70	49.28	45.86	76.80	93.00	51.00
June	60.64	56.45	53.10	76.74	97.00	67.00
July	59.44	56.56	54.25	82.92	97.00	64.50
August	67.24	58.40	52.21	90.28	99.00	71.00
September	56.11	54.23	52.72	88.20	94.00	73.00
October	51.47	49.32	47.17	85.06	96.00	65.00
November	44.46	42.66	40.32	85.23	97.00	66.00
December	39.96	38.98	37.51	91.64	97.00	83.00
Means	49.72	46.93	44.05	83.79	96.42	64.84

TABLE M 4.

Sunshine.

Month	Average bright sunshine per day (hours)	Maximum sunshine in one day		Number of sunless days
		Amount	Date	
January	1.95	6.50	15/1/30	11
February	1.27	6.40	9/2/30	14
March	3.42	8.50	29/3/30	6
April	4.35	10.00	14/4/30	3
May	4.66	14.00	1/5/30	5
June	5.79	15.00	8/6/30	6
July	3.62	11.00	12/7/30	9
August	4.70	13.00	26/8/30	6
September	3.14	12.00	2/9/30	12
October	2.81	8.00	12/10/30	11
November	2.20	8.00	4 11/30	12
December	0.80	4.00	19/12/30	19
Year 1930	3.23	—	—	114

TABLE M 5.

Rainfall.

Month	Total in inches	Maximum fall in one day		Number of rainy days
		Amount	Date	
January	4.07	.80	26/1/30	19
February	0.67	.10	15/2/30	4
March	5.21	.60	21/3/30	18
April	4.92	.90	26/4/30	12
May	2.87	.31	11/5/30	12
June	1.45	.36	9/6/30	10
July	5.35	1.26	20/7/30	20
August	5.29	.69	3/8/30	26
September	2.91	.50	17/9/30	17
October	4.95	.63	21/10/30	24
November	4.15	.67	1/11/30	19
December	4.04	.66	28/12/30	20
Year 1930	45.88	—	—	201

TABLE M 6.

Miscellaneous phenomena.

Month	Number of Days								
	Fog	Gales	Heavy rain (½-in. or more)	Hail	Sleet	Snow	Frost on the Grass	Frost on the Screen	Thunder storms
January	3	3	2	—	—	—	17	1	—
February	3	—	—	—	—	2	26	10	—
March	—	—	1	—	—	2	5	5	—
April	—	—	2	—	1	—	4	—	—
May	—	—	—	—	—	—	3	—	—
June	—	—	—	—	—	—	—	—	3
July	—	—	5	—	—	—	—	—	1
August	—	—	5	—	—	—	—	—	—
September	—	—	1	—	—	—	—	—	—
October	—	—	3	2	—	—	1	—	—
November	3	1	4	—	—	—	12	5	—
December	5	1	—	1	2	—	12	4	—
Year 1930	14	5	23	3	3	4	80	25	4

BIDSTON OBSERVATORY.

Information kindly supplied, by arrangement with the Liverpool Observatory and Tidal Institute, from Bidston Observatory is set out in Table M 7. The mean barometer readings for the various months are given below:—

January	29.621
February	30.169
March	29.818
April	29.823
May	29.960
June	29.978
July	29.819
August	29.842
September	29.945
October	29.751
November	29.804
December	29.851

The mean barometer reading for the whole year was 29.865 inches, as compared with a mean of 29.920 for the past 64 years.

TABLE M 7.

Barometer readings, cloud, sunshine, and ultra-violet radiation.

Weeks	Barometer means reduced to sea level and to 32°F	Average percentage of cloud to clear sky.	Average daily sunshine (hours)	Average daily †ultra-violet radiation (units)
1	29.597	72.87	0.8	1.4
2	29.458	58.57	2.2	0.4
3	29.732	77.14	1.1	0.2
4	29.740	67.14	2.1	0.0
5	29.442	65.71	2.6	0.0
6	29.810	81.42	0.5	0.1
7	30.414	65.71	1.6	0.1
8	30.420	57.14	2.3	0.7
9	30.231	70.00	1.0	0.0
10	30.192	75.71	2.7	0.2
11	29.478	78.57	2.5	0.2
12	29.508	65.71	4.2	1.2
13	30.006	61.42	3.7	1.0
1st Qr.	29.848	69.00	2.1	0.4
14	29.632	91.42	1.2	0.1
15	29.937	75.71	3.0	0.7
16	29.865	70.00	4.6	1.2
17	29.748	78.57	3.4	0.1
18	30.036	51.42	5.9	1.7
19	29.863	78.57	4.1	1.7
20	29.856	72.85	5.2	2.1
21	30.125	81.42	3.5	2.0
22	29.919	62.85	5.7	2.4
23	30.086	47.14	8.6	3.4
24	30.052	80.00	5.3	1.5
25	30.041	70.00	4.9	2.0
26	29.765	60.00	8.9	3.4
2nd Qr.	29.917	70.76	4.9	1.7
27	29.824	57.14	9.0	3.5
28	30.120	64.28	6.7	2.2
29	29.531	91.42	1.9	1.1
30	29.827	90.00	1.6	0.8
31	29.452	72.85	4.9	3.1
32	29.682	67.14	6.9	3.7
33	29.815	81.42	3.3	1.8
34	29.773	77.14	4.5	2.9
35	30.103	55.71	6.5	3.2
36	30.172	58.57	5.0	2.1
37	29.840	81.42	2.6	1.5
38	29.628	78.57	3.4	1.2
39	29.903	70.00	4.0	1.4
3rd Qr.	29.820	72.72	4.6	2.1
40	30.232	82.85	0.7	0.4
41	29.566	65.71	5.9	2.0
42	29.714	65.71	3.5	1.8
43	29.615	72.85	3.3	1.2
44	29.858	88.57	0.9	0.5
45	29.752	54.28	5.4	1.2
46	30.322	77.14	1.6	0.7
47	29.680	81.42	1.2	0.1
48	29.564	70.00	1.4	1.1
49	30.238	91.42	0.3	0.2
50	29.532	74.28	1.1	0.2
51	30.062	68.57	1.6	0.5
52	29.877	78.57	0.8	0.2
4th Qr.	29.847	74.72	2.1	0.7
Year	29.858	71.80	3.4	1.2

†Ultra-violet radiation is measured by exposure of a standard solution of acetone and methylene-blue. After 24 hours' exposure in a quartz tube to sunlight and skyshine, the colour of the solution is matched against a series of standard tubes in which the solution has been faded to a known extent by exposure to a constant source of ultra-violet rays. One unit of scale equals 2-4 times the Erythema dose, the sensitivity of skin varying in individuals.

POPULATION, BIRTHS, AND DEATHS.

POPULATION.

Population.—The population of the Borough as recorded at the time of the 1921 census was 145,592.

The Registrar-General's estimate of the population of the Borough as at mid-year, 1929, was 157,600.

No official estimate of the population of the Borough as at mid-year, 1930, is available at the time of writing this Report. In a communication received from the Ministry of Health, I am informed that the Registrar-General, in computing his estimate of population for mid-year, 1930, intends to take into account the population as ascertained by the 1931 census.

The Minister of Health suggests that the preparation of the annual report should not be delayed for the mid-year, 1930, figure, but that the Registrar-General's mid-year, 1929, estimate of population might be used and a statement to that effect included in the report.

In accordance with this request, *all mortality, etc., rates in this report have been calculated on the Registrar-General's mid-year, 1929, estimate of population.*

In my annual report for 1929 reference was made (preface, p. viii) to the anomalous fluctuations which have occurred in official estimates of the population of Birkenhead in recent years. It will be comforting to emerge from the obscurity of speculation into the daylight of fact; the publication of the 1931 census records will be awaited with interest.

BIRTHS.

Births registered during 1930, and birth-rate.—During the year 2,807 births belonging to the Borough were *registered.* (This total includes 40 Birkenhead births registered in other areas and transferred to Birkenhead, and excludes 64 births belonging to other areas which occurred in Birkenhead and were transferred to the areas concerned. Among the latter are numerous births which occurred at the Birkenhead Maternity Hospital and the Birkenhead Infirmary.)

This corresponds to a birth-rate of 17.8 per 1,000 of the population: the lowest ever recorded in the Borough.

Birth-rate in recent years.—The birth-rates since 1911 are as follows (the rates for 1912-1920 are given as they were published year by year, and are not calculated on revised estimates of population in the intercensal period):—

1911	28.4	per 1,000
1912	28.2	,,
1913	28.7	,,
1914	27.3	,,
1915	27.4	,,
1916	26.9	,,
1917	22.4	,,
1918	21.1	,,
1919	22.5	,,
1920	27.7	,,
1921	25.8	,,

1922	23.1 per 1,000
1923	21.4 ,,
1924	21.1 ,,
1925	20.5 ,,
1926	20.4 ,,
1927	18.2 ,,
1928	18.5 ,,
1929	18.9 ,,
1930	17.8 ,,

Comparison of birth-rate with rates for country generally—

	Per 1,000 of population. Live births	Still births
England and Wales	16.3	0.69
107 County Boroughs and Great Towns (including London)	16.6	0.71
159 Other Towns (1921 adjusted populations, 20,000-50,000)	16.2	0.69
London	15.7	0.56
Birkenhead	17.8	0.81

Sex-distribution of births.—Of the 2,807 births, 1,457 were males and 1,350 females; a proportion of 1,079 : 1,000.

Legitimacy.—Of the 2,807 births registered, 113 were illegitimate, a percentage of 4.0.

Registration of stillbirths.—Under Section 7 of the Births and Deaths Registration Act, 1926, the birth of every stillborn child* shall be registered by the Registrar in a register of stillbirths. The Registrar-General has kindly furnished me with the numbers of stillbirths registered during 1930 in Birkenhead. The total number was 132. In addition, there were 4 inward transfers. There were 8 stillbirths registered in Birkenhead belonging to other areas. Thus the nett number of stillbirths belonging to the Borough was 128, classified as follows:—

Legitimate—	Males	65
	Females	57
Illegitimate—	Males	2
	Females	4
		128

The stillbirth rate was 45 per 1,000 births.

Births notified during 1930.—During the year 2,889 births were *notified* in the Borough under the Notification of Births Acts, 1907 and 1915. Of these 131 were stillbirths, leaving a total of 2,758 live births. This total includes births which occurred in the Birkenhead Maternity Hospital, the Birkenhead Infirmary, and the Birkenhead General Hospital, many of which were transferable to other areas.

The following is an analysis of the above births:—

Births in Public Institutions:—

Maternity Hospital	392	(27 still-births)
Infirmary	206	(19 ,,)
General Hospital	1	(1 ,,)

---

*i.e., born dead after the twenty-eighth week of pregnancy.

Other births (including those in nursing homes):—

Notified by doctors	210	(12 still-births)
Notified by midwives	1948	(72 ,,)
Notified by parents	1	(— ,,)
	2758	(131 ,,)

Un-notified births. — The Registrars reported 55 cases of un-notified births. 12 of these were attended by medical practitioners, 38 by both certified midwives and doctors, 1 by the Maternity Hospital staff, 2 by the General Hospital staff, and 2 were of bodies discovered in public places.

DEATHS.

Death-rate.—1,852 deaths occurred during the year; the total figure includes 125 deaths of Birkenhead residents which occurred outside the Borough, but excludes 169 deaths of non-residents which occurred in the area. This gives a death-rate of 11.7 per 1,000.

Deaths in recent years.—The death-rates since 1911 are as follows (the rates for 1912-1920 are given as they were published year by year, and are not calculated on revised estimates of population in the intercensal period):—

1911	16.0 per 1,000
1912	14.7 ,,
1913	14.9 ,,
1914	15.6 ,,
1915	15.6 ,,
1916	14.2 ,,
1917	13.3 ,,
1918	17.6 ,,
1919	13.7 ,,
1920	13.3 ,,
1921	11.6 ,,
1922	13.6 ,,
1923	11.0 ,,
1924	11.9 ,,
1925	12.1 ,,
1926	11.1 ,,
1927	12.6 ,,
1928	12.3 ,,
1929	13.9 ,,
1930	11.7 ,,

Seasonal deaths.—The following gives the deaths for each quarter of the years 1929 and 1930.

	No. of deaths	
	1929	1930
First quarter..	854	573
Second quarter	457	438
Third quarter	369	371
Fourth quarter..	504	470
Totals	2184	1852

Sex-distribution of deaths.—Of the total deaths 984 were males and 868 females, a proportion of 1,134 : 1,000.

Uncertified deaths.—In 1930, there was 1 uncertified death belonging to the area.

Coroner's inquests.—Coroner's inquests were held regarding 86 deaths—that is, in 4.6 per cent. of the total deaths during the year.

The Coroners' (Amendment) Act, 1926.—This Act came into force on 1st May, 1927. During the year 76 deaths (4.1 per cent. of the total deaths during the year) were registered without the Coroner holding an inquest.

Causes of death.—From the beginning of 1927 the classification of causes of death previously employed during the years 1920-1926 was abandoned, and the recognised classification contained in the detailed international list was adopted. An analysis on this basis will be found in Tables P 1, P 2, and P 3.

Table P 1 (pages 67 to 71) shows the causes of death in detail, sub-classified according to age.

Table P 2 (pages 72 to 73) is a short list of deaths, prepared by the Registrar-General, sub-classified according to sex and age.

Table P 3 (pages 74 to 75) is a condensed form of Table P 1, sub-classified according to wards.

Infantile mortality.—There were 241 deaths of infants under 1 year old. This corresponds to an infantile mortality rate of 86 per 1,000 births.

There were 7 deaths in illegitimate infants under 1 year old; giving an illegitimate mortality rate of 62 per 1,000.

The causes of infant deaths, and the ages at which death occurred, are shown in Table P 4 (page 76).

The corresponding rates for each year since 1911 are given below:—

1911	136
1912	98
1913	117
1914	122
1915	122
1916	105
1917	95
1918	110
1919	102
1920	102
1921	75
1922	95
1923	62
1924	91
1925	92
1926	85
1927	95
1928	80
1929	86
1930	86

The main causes of infant deaths during the past two years are shown below:—

	No. in 1929	No. in 1930
(*a*) Pneumonia (all forms)	68	36
Bronchitis	10	9
Whooping cough	7	10
Measles	10	2
(*b*) Diarrhœa and enteritis	29	42
Premature birth	51	55
(*c*) All other causes	78	87
	253	241

Although the infantile mortality rate for the Borough has shown a general tendency to decline in recent years, this decrease has not been sufficiently marked. The high incidence of infantile diarrhœa during 1930 is a regrettable feature. The need for continuous development in the maternity and infant welfare services is apparent.

Deaths from tuberculosis.—Tuberculosis was responsible for 9.2 per cent. of all the deaths recorded in the Borough in 1930. The deaths from the disease were as follows:—

Deaths from tuberculosis of the lungs	141
Deaths from other forms of tuberculosis	29
	170

This gives a tuberculosis death-rate of 1.07 per 1,000 of the population.

Of the 141 deaths from respiratory tuberculosis during 1930, 139 occurred in individuals between 15 and 65 years old—that is, of a wage-earning age.

This subject is further dealt with in the " Tuberculosis " section of this report.

Deaths from certain epidemic diseases.—The seven " principal epidemic diseases " caused 95 deaths, as follows:—

Diarrhœa and enteritis (under 2 years)	47
Whooping cough	19
Measles	3
Scarlet fever	0
Diphtheria (including membranous croup)	26
" Fever " (enteric, typhus, and simple continued fever)	0
Smallpox	0

This corresponds to a death-rate from all these diseases of 0.6 per 1,000 of the population.

Deaths from other notifiable infectious diseases.—Pneumonia caused, in its various forms, 205 deaths; puerperal fever caused 2; encephalitis lethargica caused 3; erysipelas caused 0; acute polioencephalitis caused 0.

Deaths from cancer.—The following table shows the cancer death-rate in Birkenhead as compared with the country generally:—

Year	BIRKENHEAD			ENGLAND AND WALES
	Population	Number of deaths from cancer in Birkenhead	Rate per 100,000 population	Rate per 100,000 population
1901	111,377	91	81	87
1902	113,231	66	58	
1903	115,117	78	68	
1904	117,034	83	70	
1905	118,982	94	79	
1906	120,964	101	83	94
1907	122,978	90	73	
1908	125.026	101	80	
1909	127,108	91	71	
1910	129,227	115	89	
1911	131,377	114	86	105
1912	135,521	126	92	
1913	135,740	107	70	
1914	137,906	114	82	
1915	140,291	121	85	
1916	142,622	140	98	118
1917	144,993	144	99	
1918	147,403	154	104	
1919	149,853	181	121	
1920	152,345	186	122	
1921	147,800	186	125	121
1922	149,200	172	115	123
1923	151,400	179	118	127
1924	154,100	179	116	130
1925	155,500	199	129	133
1926	158.000	204	129	136
1927	158,500	206	130	137
1928	159,200	229	145	142
1929	157,600	214	136	143
1930	157,600	228	144	145

Comparison of Birkenhead death-rates with those for country generally.—In Table P 5 (page 77) Birkenhead rates are shewn together with those for the country generally. The latter are provisional figures kindly supplied by the Registrar-General. Non-civilians are included in the figures for England and Wales, but not for other areas.

TABLE P 1.

Deaths belonging to the County Borough of Birkenhead classified according to the detailed international list of causes, as adapted for use in England and Wales, registered during the year ending 31st December, 1930.

Classification No.	Causes of death	Ages at death																					
		All ages	Under 1 year					Under 5 years					Over subjoined years										
			& over months				Tot'l	& over years				Tot'l											
			0	3	6	9		1	2	3	4		5	10	15	20	25	35	45	55	65	75	85 & up
	I.—Epidemic, Endemic, and Infectious Diseases (1—42).																						
1	Enteric fever—																						
	A. Typhoid fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	B. Paratyphoid	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	Typhus fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	Relapsing fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	Mediterranean fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	Malaria—																						
	A. Malarial fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	B. Malarial cachexia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	Measles	3	1	...	...	1	2	1	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...
8	Scarlet fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	Whooping cough	19	...	4	1	5	10	6	2	...	...	18	1	...	...	...	...	...	...	...	...	...	...
10	Diphtheria	26	...	1	1	...	2	1	3	2	1	9	9	5	...	1	...	1	1	...	...	...	...
11	Influenza—																						
	A. With pulmonary complications—																						
	1. With pneumonic complications	18	...	...	...	...	...	...	...	...	1	1	...	...	2	...	1	4	4	1	2	2	1
	2. With other pulmonary complications	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	B. Without pulmonary complications—																						
	1. With non-pulmonary complications	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Without stated complications	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	Miliary fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	Mumps	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	Asiatic cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	Cholera nostras	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	Dysentery—																						
	A. Amœbic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	B. Bacillary	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
	C. Other or unspecified	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

17	Plague—																						
	A. Bubonic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	B. Pneumonic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	C. Septicæmic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	Yellow fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	Spirochætosis ictero-hæmorrhagica	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	Leprosy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	Acute poliomyelitis—																						
	1. Acute poliomyelitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Acute polioencephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	Encephalitis lethargica	3	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...
24	Meningococcal meningitis	1	...	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
25	Other epidemic and endemic diseases—																						
	1. German measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Varicella	1	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...
	3. Other diseases included under 25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	Glanders	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	Anthrax	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	Rabies	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	Tetanus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	Mycosis—																						
	1. Actinomycosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Other mycoses	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Tuberculosis (all forms) (31—37)—																						
31	Respiratory system	141	...	1	..	...	1	1	...	...	...	2	...	...	14	21	31	25	26	19	3	...	...
32	Central nervous system	12	...	1	...	2	3	1	...	...	...	4	2	...	1	2	2	.	1	...	..	...	...
33	Intestines and peritoneum	8	...	...	...	...	...	...	2	...	...	2	...	2	1	1	...	1	...	...	1	...	...
34	Vertebral column	2	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...
35	Joints	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
36	Other organs—																						
	A. Skin and subcutaneous tissue	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	B. Bones (vertebral column excepted)	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
	C. Lymphatic system (abdominal glands excepted)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	D. Genito-urinary system	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
	E. Other sites included under 36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
37	Disseminated tuberculosis—																						
	A. Acute	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	B. Chronic or unstated	3	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	1	...	...	...	...
38	Syphilis	4	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	1	1	1	...	...	...
39	Soft chancre	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE P 1.—CONTINUED.

Classification No.	Causes of death	Ages at death																					
		All ages	Under 1 year					Under 5 years					Over subjoined years										
			& over months				Tot'l	& over years				Tot'l											
			0	3	6	9		1	2	3	4		5	10	15	20	25	35	45	55	65	75	85 & up
40	Gonococcal infection—																						
	1. Gonococcal infection (ophthalmia excepted)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Gonorrhœal or purulent ophthalmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
41	Purulent infection, septicæmia	3	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	1	1	...	...	...
42	Other infectious diseases—																						
	1. Vaccinia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Other diseases included under 42	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	II.—General diseases (43–69) **not included in I.** (1–42).																						
	Cancer, malignant disease (43–49)—																						
43	Buccal cavity	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	5	4	1	1
44	Pharynx, œsophagus, stomach, liver & annexa	80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	8	13	20	27	10	1
45	Peritoneum. intestines and rectum	60	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	4	7	19	22	6	1
46	Female genital organs	14	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	1	3	2	3	2	...
47	Breast	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	4	2	2	...
48	Skin	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	1	...
49	Other unspecified organs	44	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	6	9	15	6	3	3
50	Tumours not returned as malignant (brain and female genital organs excepted)	8	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	3	3	...	...	...
51	Rheumatic fever	14	...	...	...	...	...	...	...	...	...	...	2	2	2	1	2	...	2	...	3	...	...
52	Chronic rheumatism, osteo-arthritis, gout—																						
	1. Chronic rheumatism, chronic arthritis	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
	2. Rheumatoid arthritis, osteo-arthritis	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	3	1	.
	3. Gout	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
53	Scurvy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
54	Pellagra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
55	Beri-beri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
56	Rickets	5	2	...	...	...	2	2	...	1	...	5	...	...	...	...	...	...	...	...	...	...	...
57	Diabetes	16	...	...	...	...	...	...	...	...	...	...	1	...	...	1	2	...	...	3	6	3	...
58	Anæmia, chlorosis—																						
	A. Pernicious anæmia	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	1	...	...
	B. Other anæmias and chlorosis		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

59	Diseases of the pituitary gland	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60	Diseases of the thyroid gland—																						
	A. Exophthalmic goitre	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...
	B. Other diseases of the thyroid gland—																						
	1. Myxœdema	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
	2. Cretinism	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	3. Other diseases included under 60B	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
61	Diseases of the parathyroid glands—																						
	1. Tetany	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Other diseases of the parathyroid glands	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
62	Diseases of the thymus	2	1	...	...	...	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...
63	Diseases of the adrenals	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
64	Diseases of the spleen	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
65	Leukæmia, Lymphadenoma—																						
	A. Leukæmia	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	...	...	...
	B. Lymphadenoma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
66	Alcoholism (acute or chronic)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
67	Chronic poisoning by mineral substances—																						
	1. Occupational lead poisoning	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Other chronic poisoning by mineral substances	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
68	Chronic poisoning by organic substances	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
69	Other general diseases—																						
	1. Purpura	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
	2. Hæmophilia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	3. Other diseases included under 69	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
	III.—Diseases of the nervous system and sense organs (70–86).																						
70	Encephalitis—																						
	1. Cerebral abscess	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...
	2. Other diseases included under 70	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
71	Meningitis	12	1	3	...	...	4	1	...	...	...	5	2	1	...	...	...	1	1	1	...	1	...
72	Tabes dorsalis (locomotor ataxy)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
73	Other diseases of the spinal cord	3	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...	...
74	Cerebral hæmorrhage, apoplexy, etc.—																						
	A. Cerebral hæmorrhage—																						
	1. Cerebral hæmorrhage so returned	81	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	8	19	27	16	10
	2. Apoplexy (lesion unstated)	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	3	...
	B. Cerebral thrombosis and embolism—																						
	1. Cerebral embolism	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
	2. Cerebral thrombosis	8	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	1	1	4

TABLE P 1.—CONTINUED.

Classification No.	Causes of death	Ages at death																								
		All ages	Under 1 year					Under 5 years					Over subjoined years										
			& over months				Tot'l	& over years				Tot'l											
			0	3	6	9		1	2	3	4		5	10	15	20	25	35	45	55	65	75	85 & up
75	Paralysis of unstated origin—																						
	A. Hemiplegia	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
	B. Other forms of paralysis	1	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...
76	General paralysis of the insane	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...
77	Other forms of insanity	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
78	Epilepsy	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	2	1	1	1	...
79–80	Convulsions (non-puerperal)	6	5	...	1	...	6	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...
81	Chorea	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
82	Hysteria and neuritis—																						
	1. Hysteria, neuralgia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Neuritis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
83	Cerebral softening	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
84	Other diseases of the nervous system—																						
	1. Idiocy, imbecility	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Cerebral tumour	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	1	...	...	...
	3. Disseminated sclerosis	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	1	...	...	...	...
	4. Paralysis agitans	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
	5. Other diseases included under 84	3	...	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	1	1	...
85	Diseases of the eye and annexa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
86	Diseases of the ear and of the mastoid sinus—																						
	1. Diseases of the mastoid sinus	2	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...
	2. Diseases of the ear	2	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...
	IV.—Diseases of the circulatory system (87–96).																						
	Heart diseases (87–90)—																						
87	Pericarditis	5	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1	1	1	...
88	Acute endocarditis and myocarditis—																						
	1. Malignant endocarditis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Other acute endocarditis	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
	3. Acute myocarditis	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...
89	Angina pectoris	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	8	1	3	...

90	Other diseases of the heart—																						
	1. Aortic valve disease	8	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	1	1	...	6	...	...
	2. Mitral valve disease	32	...	...	...	...	...	...	..	...	...	...	...	...	3	2	3	2	1	9	11	1	...
	3. Aortic and mitral disease	2	...	...	...	...	...	...	...		...	...	..	...	...	1	...	...	1	...	..	...	...
	4. Other or unspecified valve disease	24	...	..	...	...	...	...	...	...	...	..	...	2	1	..	2	2	4	5	3	5	..
	5. Fatty heart	16	...	.	..	...	...	...	...	...	...	..	..	...	...	...	...	...	3	5	6	2	...
	6. Dilatation of heart (cause unspecified)	...	...	..	..	...	...	...	.	...	...	...	...	...	...	...	...	...	...	..	...	...	...
	7. Other or unspecified myocardial disease	104	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	3	7	20	35	30	8
	8. Disordered action of the heart	17	...	...	...	...	...	..	...	...	...	...	...	...	...	...	1	1	3	6	3	3	..
	9. Heart disease (undefined)	3	...	...	...	...	..	...	...		...	...	.	...	...	...	...	..	2	1	..	...	...
91	Diseases of the arteries—																						
	A. Aneurysm	7	...	...	...	.	...	...	...	...	..	...	...	...	...	...	1	...	1	4	1	..	...
	B. Arterio-sclerosis—																						
	1. Arterio-sclerosis with c.v. lesion	38	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	3	9	14	7	5
	2. Arterio-sclerosis without record of c.v. lesion	41	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	1	...	4	16	17	3
	C. Other diseases of the arteries	...	..	..	...	...	...	...	...	...	..	...	..	...	...	...	...	...	...	...	...	...	...
92	Embolism and thrombosis (cerebral)	6	...	...	...	...	..	..	...	...	...	...	...	..	...	..	...	1	1	2	2	...	...
93	Diseases of the veins (varix, hæmorrhoids, phlebitis, etc.)	1	..	...	...	...	...	.	...	...	...	...	..	...	...	...	...	...	1	...	...	...	...
94	Diseases of the lymphatic system (lymphangitis, etc.)	...	...	..	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	..
95	Hæmorrhage without stated cause	...	...	..	...	...	...	...	...	..	...	...	...	..	...	..	...	...	...	...	..	...	...
96	Other diseases of the circulatory system	1	...	...	...	...	...	...	..	...	..	...	...	...	...	...	.	...	.	1	...	...	...
	V.—Diseases of the respiratory system (97–107).																						
97	Diseases of the nasal fossæ and annexa—																						
	1. Diseases of the nose	...	...	...	...	..	...	...	...	...	...	...	..	...	...	...	...	..	...	...	...	...	...
	2. Diseases of the accessory nasal sinuses	...	..	..	...	...	...	.	...	...	..	...	...	...	...	...	...	...	...	...	...	...	..
98	Diseases of the larynx—																						
	1. Laryngismus stridulus	...	..	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Laryngitis	1	...	..	...	...	...	...	...	...	1	1	...	...	...	...	...	...	..	...	...	...	...
	3. Other diseases of the larynx	...	...	...	...	...	...	...	...	...	..	...	...	...	..	..	...	..	...	..	...	...	...
99	Bronchitis—																						
	A. Acute bronchitis	29	3	1	2	1	6	..	..	...	...	6	...	...	..	...	1	...	6	5	3	6	2
	B. Chronic bronchitis	35	...	...	..	1	1	...	...	...	...	1	..	..	...	..	...	2	6	9	10	7	...
	C. & D. Bronchitis not distinguished as acute or chronic	52	...	1	...	1	2	2	...	1	..	5	...	...	...	..	...	..	1	6	20	15	5
	Pneumonia (all forms) (100–101)—																						
100	Broncho-pneumonia	114	12	4	10	5	31	18	5	1	...	55	.	2	...	...	2	7	13	13	11	10	1

TABLE P 1.—CONTINUED

Classification No.	Causes of death	Ages at death																					
		All ages	Under 1 year					Under 5 years					Over subjoined years										
			& over months				Tot'l	& over years				Tot'l											
			0	3	6	9		1	2	3	4		5	10	15	20	25	35	45	55	65	75	85 & up
101	Pneumonia (lobar or not otherwise defined)—																						
	A. Lobar pneumonia	60	...	1	...	...	1	...	...	2	...	3	2	1	4	...	3	10	13	12	10	2	...
	B. Pneumonia not otherwise defined	31	1	...	1	2	4	3	1	...	...	8	...	...	...	...	3	...	3	5	6	6	...
102	Pleurisy—																						
	1. Empyema	4	...	...	...	...	...	2	...	1	...	3	1	...	...	...	...	...	...	...	...		...
	2. Other pleurisy	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
103	Congestion and hæmorrhagic infarct of lung	8	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	1	2	1	2
104	Gangrene of the lung	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...	...
105	Asthma	13	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	3	5	2	...
106	Pulmonary emphysema	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
107	Other diseases of the respiratory system—																						
	A. Chronic interstitial pneumonia, including occupational diseases of the lung	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	B. Diseases of the mediastinum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	C. Other diseases included under 107	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...		...
	VI.—Diseases of the digestive system (108–127)																						
108	Diseases of the buccal cavity and annexa—																						
	1. Diseases of the teeth and gums	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...	...	...	...	...
	2. Ludwig's angina	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
	3. Other diseases included under 108	...	...	...	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...	...	...
109	Diseases of the pharynx and tonsils—																						
	1. Tonsillitis, adenoid vegetations	3	...	...	...	...	...	...	...	1	...	1	...	...	...	...	1	1	...	...	...	...	...
	2. Other diseases included under 109	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.	...	...	...
110	Diseases of the œsophagus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
111	Ulcer of the stomach or duodenum—																						
	A. Ulcer of the stomach	19	...	...	.	...	...	...	...	...	...	...	...	...	...	...	1	3	7	4	3	1	...
	B. Ulcer of the duodenum	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	...	...	...	...
112	Other diseases of the stomach—																						
	1. Inflammation of the stomach	7	2	...	...	...	2	...	...	...	1	3	...	...	...	...	1	...	...	...	...	3	...
	2. Other diseases included under 112	5	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	1	...	1	...	...

113 114	Diarrhœa and enteritis—																						
	1. Ulceration of the intestines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Colitis	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
	3. Other diseases included under 113–114	51	16	14	4	8	42	2	3	...	...	47	...	...	...	...	...	...	2	...	...	1	1
115	Ankylostomiasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
116	Diseases due to other intestinal parasites—																						
	A. Cestodes (hydatids of the liver excepted)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	B. Trematodes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	C. Nematodes (other than ankylostoma)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	D. Coccidia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	E. Other specified parasites under 116	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	F. Undefined intestinal parasites	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
117	Appendicitis	8	...	...	...	...	...	...	...	...	...	...	2	...	...	1	1	1	1	2	...	...	...
118	Hernia, intestinal obstruction—																						
	A. Hernia	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
	B. Intestinal obstruction	11	1	1	...	...	2	...	...	...	...	2	1	...	...	...	...	...	1	4	3	...	...
119	Other diseases of the intestines—																						
	1. Intestinal stasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Other diseases included under 119	4	2	...	...	...	2	...		...	...	2	...	...	...	...	...	...	1	1	...	...	...
120	Acute yellow atrophy of the liver	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
121	Hydatid tumour of the liver	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
122	Cirrhosis of the liver—																						
	A. Returned as alcoholic	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	B. Not returned as alcoholic	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	1	...	...
123	Biliary calculi	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...
124	Other diseases of the liver	11	1	...	...	...	1	...	...	...	1	2	...	...	...	...	1	1	2	3	2	...	...
125	Diseases of the pancreas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
126	Peritonitis without stated cause	3	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...
127	Other diseases of the digestive system	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	VII.—Non-venereal diseases of the genito-urinary system and annexa (128–142).																						
128	Acute nephritis (including unspecified under 10 years of age)	5	...	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	2	1	1	...	1
129	Chronic nephritis (including unspecified over 10 years of age)	46	...	...	...	...	...	...	1	...	...	1	...	...	...	...	4	7	3	9	16	5	1
130	Chyluria	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
131	Other diseases of the kidney and annexa	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	2	1	...
132	Calculi of the urinary passages	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
133	Diseases of the bladder—																						
	1. Cystitis	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	...
	2. Other diseases of the bladder	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE P 1.—CONTINUED.

Classification No.	Causes of death	Ages at death																					
		All ages	Under 1 year					Under 5 years					Over subjoined years										
			& over months				Tot'l	& over years				Tot'l											
			0	3	6	9		1	2	3	4		5	10	15	20	25	35	45	55	65	75	85 & up
134	Diseases of the urethra, urinary abscess, etc.—																						
	A. Stricture of the urethra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	B. Other diseases of the urethra, etc.	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
135	Diseases of the prostate	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	3	2	1
136	Non-venereal diseases of the male genital organs	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
137	Cysts, and other tumours of the ovary not returned as malignant	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
138	Salpingitis and pelvic abscess in females—																						
	1. Salpingitis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
	2. Pelvic abscess in females	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
139	Tumours of the uterus not returned as malignant	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...
140	Non-puerperal uterine hæmorrhage	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
141	Other diseases of the female genital organs—																						
	1. Other diseases of the uterus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Diseases of the other female genital organs not included under other headings	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
142	Non-puerperal disease of the breast	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	VIII.—The puerperal state (143–150).																						
143	Accidents of pregnancy—																						
	A. Abortion	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
	B. Ectopic gestation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	C. Other accidents of pregnancy	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...	...	...	...
144	Puerperal hæmorrhage	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	.		...	...	...	...
145	Other accidents of childbirth	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...
146	Puerperal sepsis	5	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	3	...	...	...	...	...
147	Puerperal phlegmasia alba dolens, embolism, and sudden death—																						
	1. Puerperal phlegmasia alba dolens not returned as malignant	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Puerperal embolism and sudden death	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
148	Puerperal albuminuria and convulsions	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

149	Childbirth not assignable to other headings (puerperal insanity)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
150	Puerperal diseases of the breast	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	IX.—Diseases of the skin and cellular tissue (151–154).																							
151	Gangrene—																							
	1. Senile gangrene	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	2	1
	2. Other gangrene	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...
152	Carbuncle, boil	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
153	Cellulitis, acute abscess—																							
	1. Cellulitis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
	2. Acute abscess	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
154	Other diseases of the skin and its annexa—																							
	1. Ulcer, bedsore	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...
	2. Eczema	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	3. Pemphigus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	4. Other diseases included under 154	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	X.—Diseases of the bones and organs of locomotion (155–158).																							
155	Diseases of the bones—																							
	1. Acute infective osteo-myelitis and periostitis	6	...	...	...	...	...	1	...	...	...	1	...	2	1	1	...	...	1	...	...	...	...
	2. Other diseases of the bones	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
156	Diseases of the joints	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
157	Amputations	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
158	Other diseases of the organs of locomotion	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
159	**XI.—Congenital malformations** (159)																							
	1. Congenital hydrocephalus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Congenital malformations of heart	8	7	...	1	...	8	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...
	3. Other congenital malformations	15	12	3	...	...	15	...	...	...	...	15	...	...	...	...	...	...	...	...	...	...	...	...
	XII.—Diseases of early infancy (160–163).																							
160	Congenital debility, sclerema and icterus—																							
	1. Congenital debility and sclerema	20	12	4	1	2	19	1	...	...	...	20	...	...	...	...	...	...	...	...	...	...	...	...
	2. Icterus neonatorum	1	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...

TABLE P 1.—CONTINUED.

Classification No.	Causes of death	Ages at death																					
		All ages	Under 1 year					Under 5 years					Over subjoined years										
			& over months				Tot'l	& over years				Tot'l											
			0	3	6	9		1	2	3	4		5	10	15	20	25	35	45	55	65	75	85 & up
161	Premature birth, injury at birth—																						
	1. Premature birth	50	49	1	...	...	50	...	...	...	...	50	...	...	...	...	...	...	...	...	...	...	...
	2. Injury at birth	5	5	...	...	...	5	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...
162	Other diseases peculiar to early infancy—																						
	1. Diseases of the umbilicus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Atelectasis	9	9	...	...	...	9	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...
	3. Other diseases included under 162	1	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
163	Lack of care	1	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
164	**XIII.—Old age** (164).																						
	1. Senile dementia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Other forms of senile decay	43	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	21	13
	XIV.—External causes (165–203).																						
	Suicide (165–174).—																						
165 166	By solid or liquid poisons and corrosive substances	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
167	By poisonous gas	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	1	1	1	...	...
168	By hanging or strangulation	3	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...
169	By drowning	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
170	By firearms	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
171	By cutting or piercing instruments	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	...	...
172	By jumping from high place	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
173	By crushing	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
174	By other means	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Violent deaths (175–196) excluding suicide and homicide (201–203).—																						
175	Food poisoning	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
176	Poisoning by venomous animals	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
177	Other acute accidental poisoning (not by gas)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
178	Conflagration	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...

179	Accidental burns (conflagration excepted)	7	...	...	...	...	...	1	2	1	...	4	1	...	1	...	...	...	...	...	1	...	...
180	Accidental mechanical suffocation	3	3	...	..	...	3	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...
181	Accidental absorption of irrespirable or poisonous gas	..	...	...	...	..	...	...	..	...	...	...	...	...	..	...	...	...	...	...	...	..	...
182	Accidental drowning	6	...	...	...	...	...	...	...	...	..	...	...	1	1	..	...	1	1	1	1	...	...
	Accidental injury—																						
183	By firearms	...	..	...	...	...	...	...	..	...	..	...	...	...	..	...	...	...	..	...	...	...	...
184	By cutting or piercing instruments	...	...	..	...	...	...	...	..	...	..	..	...	...	..	...	...	...	...	...	..	...	...
185	By fall	20	.	..	...	...	...	1	...	...	...	1	1	...	2	1	...	2	3	2	5	1	2
186	In mining and quarrying	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	..	...
187	By machinery	1	...	...	..	...	...	...	...	...	...	.	..	..	...	...	...	...	1	...	...	..	...
188	By other forms of crushing (road vehicles, on railways, etc.)	21	...	...	...	...	...	...	1	...	...	1	2	..	2	2	6	...	5	1	1	1	...
189	Injury by animals (poisoning by venomous animals excepted)	...	...	..	...	...	...	..	...	...	..	...	...	...	..	..	...	...	...	...	...	...	...
190	Wounds of war	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
191	Execution of civilians by belligerent armies	...	...	...	...	...	...	...	...	..	...	...	...	..	...	...	...	...	..	...	...	...	...
192	Hunger or thirst	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
193	Excessive cold	...	...	...	..	...	...	...	...	...	...	...	...	.	..	..	...	...	...	...	...	..	...
194	Excessive heat	...	...	...	...	...	...	..	..	...	...	...	...	...	...	..	...	..	...	...	...	...	...
195	Lightning	...	...	...	...	..	...	..	...	..	...	...	..	...	...	...	...	...	...	...	...	...	...
196	Electricity (lightning excepted)	...	...	...	...	...	...	..	...	...	...	...	..	...	...	...	...	...	...	...	...	...	..
	Homicide (197–200).—																						
197	By firearms	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...
198	By cutting or piercing instruments	1	...	...	...	...	...	...	...	...	...	...	...	..	..	1	...	...	..	...	...	...	...
199	By other means	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	..	..	..	...
200	Infanticide (under 1 year)	...	...	...	..	..	...	...	...	...	...	...	..	...	...	...	...	...	...	..	...	...	...
201	Fracture (cause not specified)	...	...	..	...	..	...	..	....	...	...	...	...	...	...	...	...	...	...	...	...	...	..
202	Other or unstated forms of accidental violence	1	..	...	..	...	...	...	..	.	...	...	...	1	...	...	...	...	...	...	...	...	...
203	Violent deaths of unstated nature (*i.e.* accidental, suicidal, etc.) and cause	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	..	..	...	...
	XV.—Ill-defined diseases (204–205).																						
204	Sudden death	...	...	..	...	...	...	...	...	...	...	...	..	...	...	...	..	...	...	..	...	...	...
205	Cause of death unstated or ill-defined—																						
	1. Heart failure (age 1–70)	...	...	...	...	...	...	..	...	...	...	..	..	...	..	..	...	...	...	...	..	...	...
	2. Other or ill-defined causes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
	3. Cause not specified	...	...	...	...	..	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	.	...
	Total ...	1852	149	40	22	30	241	44	20	12	6	323	30	24	42	49	96	135	226	302	343	214	68

TABLE P 2.

Deaths: causes, sex, and ages.

Causes of death	Sex	All ages	0—	1—	2—	5—	15—	25—	45—	65—	75—
All causes	Male	983	149	22	19	23	39	133	322	173	103
	Female	366	91	24	19	31	50	96	206	169	180
1 Enteric fever	Male	...	...	...	...	...	...	...	...	...	...
	Female	..	...	...	...	...	...	...	...	...	...
2 Smallpox	Male	...	...	...	..	...	...	...	...	...	...
	Female	....	...	...	...	...	...	...	...	...	...
3 Measles	Male	1	1	...	...	...	...	...	...	...	...
	Female	2	...	2	...	...	...	...	...	...	...
4 Scarlet fever	Male	....	....	...	...	...	...	...	...	...	...
	Female	...	...	...	...	...	..	...	..	...	...
5 Whooping Cough	Male	8	4	3	...	1	...	...	..	...	...
	Female	11	6	3	2	...	...	...	...	...	...
6 Diphtheria	Male	13	2	...	3	5	1	1	1	...	..
	Female	13	...	1	3	9	...	...	...	...	...
7 Influenza	Male	9	...	...	...	...	1	4	2	1	1
	Female	10	...	...	1	1	1	2	3	1	1
8 Encephalitis lethargica	Male	1	...	...	...	...	...	...	1	...	...
	Female	3	...	...	...	...	1	...	2	...	...
9 Meningococcal meningitis	Male	2	2	...	...	...	...	...	...	....	...
	Female	...	...	...	...	...	...	...	...	...	...
10 Tuberculosis of respiratory system	Male	85	...	...	...	...	10	35	37	3	...
	Female	57	1	...	...	...	25	21	10	...	..
11 Other tuberculous diseases	Male	12	1	...	3	1	3	1	...	2	1
	Female	19	2	2	...	4	3	4	4	...	...
12 Cancer, malignant disease	Male	112	..	...	...	...	...	10	60	33	9
	Female	119	...	...	...	...	2	16	47	32	22
13 Rheumatic fever	Male	1	...	...	...	...	1	..	...	...	...
	Female	5	...	...	...	3	2	...	...	...	...
14 Diabetes	Male	6	...	...	...	1	...	1	1	3	...
	Female	9	...	...	...	...	..	1	2	3	3
15 Cerebral hæmorrhage, &c	Male	32	...	...	...	...	...	...	8	10	14
	Female	61	...	...	...	...	...	1	19	17	24
16 Heart disease	Male	156	..	...	...	1	3	7	55	53	37
	Female	142	...	..	....	1	5	11	37	45	43

17	Arterio-sclerosis	Male	33	...	...	...	...	...	1	10	11	11
		Female	27	...	...	...	...	...	...	3	6	18
18	Bronchitis	Male	41	6	...	1	...	1	2	15	11	5
		Female	35	2	2	...	...	...	...	10	7	14
19	Pneumonia (all forms)	Male	128	24	15	6	3	3	22	40	12	3
		Female	81	15	8	4	3	2	5	20	12	12
20	Other respiratory diseases	Male	10	...	...	...	...	2	1	5	1	1
		Female	5	...	...	1	...	..	....	...	3	1
21	Ulcer of stomach or duodenum	Male	19	...	..	...	...	...	5	12	1	1
		Female	3	...	...	...	...	...	....	1	2	..
22	Diarrhœa, &c.	Male	29	25	1	2	...	...	...	1	...	...
		Female	23	16	1	1	...	1	...	2	1	1
23	Appendicitis and typhlitis	Male	5	...	...	...	1	1	1	2	...	...
		Female	4	...	...	...	2	..	1	1	...	...
24	Cirrhosis of liver	Male	3	...	...	...	...	...	1	2	..	...
		Female	2	...	...	...	...	...	1	...	1	...
25	Acute and chronic nephritis	Male	29	...	...	...	...	...	7	9	10	3
		Female	32	...	...	...	..	...	4	10	11	7
26	Puerperal sepsis	Male	...	...	...	...	...	....	...	...	...	...
		Female	5	..	...	...	...	1	4	..	...	...
27	Other accidents and diseases of pregnancy and parturition	Male	...	...	...	...	...	...	...	...	...	...
		Female	7	..	...	...	..	1	6	...	...	...
28	Congenital debility and malformation, premature birth	Male	60	60	...	...	...	...	...	...	...	...
		Female	33	33	...	...	...	...	...	...	...	...
29	Suicide	Male	11	...	...	...	...	1	4	5	1	...
		Female	4	...	...	...	...	...	2	2	...	..
30	Other deaths from violence	Male	32	1	2	1	3	7	6	10	2	..
		Female	28	2	...	3	2	3	5	4	6	3
31	Other defined diseases	Male	145	23	1	3	7	5	24	46	19	17
		Female	126	14	5	4	6	3	12	29	22	31
32	Causes ill-defined or unknown	Male	...	...	...	...	...	...	...	..	...	...
		Female	...	...	...	..	...	...	...	...	...	...
	Totals		1849	240	46	38	54	89	229	528	342	283

Note.—The above Table has been compiled by the Registrar General from statistics in his office. He states that the figures do not relate to deaths *occurring* but to deaths *registered* during the calendar year as belonging to the area. Further, the classification of some deaths in respect of which the certifying medical practitioners have given indefinite causes is modified in the light of fuller information obtained from them in response to special enquiries. When comparing the number of deaths classified locally to the various headings with the numbers classified to the same headings by the Registrar General, this possible source of discrepancy should be borne in mind.

The above Table cannot, therefore, be closely checked against Tables P 1 and P 3 which have been compiled in my department.

TABLE P 3.

Deaths: causes and wards.

Causes of death	Deaths in or belonging to wards at all ages.												Total deaths in Public Institutions in the district
	Whole Borough	Argyle	Grange	Cleveland	Claughton	Oxton	Clifton	Egerton	Mersey	Bebington	Prenton	Bidston	
All causes	1852	244	371	350	108	48	287	228	111	49	32	24	948
1 Enteric fever	...	...	...	...	..	...	...	...	...	...	...	...	..
2 Smallpox	...	...	....	..	...	...	...	..	..	...	...	...	...
3 Measles	3	1	1	1	...	...	...	...	...	...	...	...	5
4 Scarlet fever	...	...	...	...	...	...	...	...	...	...	...	...	...
5 Whooping cough	19	3	4	6	2	...	...	2	1	...	...	1	9
6 Diphtheria..	26	2	3	3	...	...	9	4	4	1	...	...	24
7 Influenza	19	2	1	4	3	...	6	2	...	...	...	1	4
8 Encephalitis lethargica	3	1	...	1	...	...	...	..	...	...	1	...	3
9 Meningococccal meningitis	1	...	1	..	...	...	...	...	...	...	...	...	1
10 Tuberculosis of respiratory system	141	25	28	29	5	3	21	17	7	3	2	1	89
11 Other tuberculous diseases	29	2	7	9	3	...	2	4	..	1	...	1	20
12 Cancer, malignant disease	228	21	43	39	17	8	34	37	11	7	7	4	106
13 Rheumatic fever	14	2	5	...	...	...	5	...	1	1	...	...	9

14	Diabetes	16	1	5	3	...	1	2	2	1	1	...	...	8
15	Cerebral hæmorrhage, &c.	95	8	20	16	8	6	13	14	5	1	4	...	34
16	Heart disease	229	35	44	32	10	5	37	36	15	8	5	2	121
17	Arterio-sclerosis	86	9	18	15	9	1	12	12	7	1	1	1	59
18	Bronchitis	116	28	31	27	5	...	9	6	7	3	...	...	32
19	Pneumonia	205	35	33	46	12	3	32	17	15	8	3	1	96
20	Other respiratory diseases	30	4	9	4	1	2	5	1	2	...	2	...	11
21	Ulcer of stomach or duodenum	23	3	10	2	1	1	3	1	1	...	...	1	15
22	Diarrhœa, &c.	52	6	17	10	2	...	7	4	6	...	...	...	41
23	Appendicitis and typhlitis	8	...	1	2	2	...	2	1	...	..	...	...	8
24	Cirrhosis of liver	6	...	...	1	2	1	1	...	...	...	1	...	1
25	Acute and chronic nephritis	53	7	6	11	2	1	5	14	4	2	1	...	21
26	Puerperal sepsis	5	1	...	2	...	1	...	1	...	...	...	...	5
27	Other accidents and diseases of pregnancy and parturition	9	1	1	3	1	...	...	1	1	1	...	...	7
28	Congenital debility and malformation, premature birth	110	15	21	29	...	2	18	8	9	2	1	5	44
29	Suicide	15	1	3	4	2	1	2	1	...	...	1	...	1
30	Other deaths from violence	62	10	14	11	2	1	13	6	1	1	1	2	41
31	Other defined diseases	249	21	43	40	19	11	51	37	13	8	2	4	133
32	Causes ill-defined or unknown	...	..	...	...	...	...	...	...	...	...	...	...	.
	Totals	1852	244	371	350	108	48	287	228	111	49	32	24	948

NOTE.—All deaths which occurred in institutions are classified in the ward in which the patient resided.

TABLE P 4.

Infant deaths: causes and ages.

Causes of death	Under 1 week	1–2 weeks	2–3 weeks	3–4 weeks	Total under 4 weeks	Over 4 weeks & under 3 months	3–6 months	6–9 months	9–12 months	Total under 1 year
All causes	73	8	4	7	92	57	40	22	30	241
Smallpox	...	...	..	...	...	..	...	...	...	...
Chickenpox	...	...	...	...	...	...	..	...	..	...
Measles	...	...	...	..	...	1	...	...	1	2
Scarlet fever	...	...	...	...	...	...	...	...	.	...
Whooping cough	...	...	...	...	...	...	4	1	5	10
Diphtheria	...	...	...	...	...	...	1	1	...	2
Influenza	...	..	..	...	...	...	...	...	...	...
Tuberculosis of central nervous system	...	...	...	...	...	...	1	...	2	3
Tuberculosis of intestines and peritoneum	...	...	..	...	..	...	...	...	...	...
Meningitis (not tuberculous)	...	...	...	...	...	1	3	..	...	4
Convulsions	3	...	..	..	3	2	...	1	...	6
Bronchitis (all forms)	...	...	..	1	1	1	2	2	3	9
Pneumonia (all forms)	...	...	...	...	...	13	5	11	7	36
Diarrhœa and enteritis	1	...	...	1	2	14	14	4	8	42
Gastritis	...	...	1	...	1	1	...	...	...	2
Syphilis	...	..	...	...	...	1	...	...	..	1
Rickets	...	...	..	...	...	2	...	...	...	2
Injury at birth	5	...	...	...	5	...	...	...	...	5
Atelectasis	9	...	...	..	9	...	..	..	...	9
Congenital malformations	11	2	2	...	15	4	3	1	...	23
Premature birth	34	2	1	4	41	8	1	..	...	50
Atrophy, debility and marasmus	5	1	...	1	7	6	4	1	2	20
Other causes	5	3	...	..	8	3	2	...	2	15
Totals	73	8	4	7	92	57	40	22	30	241

Nett births in the year—

Legitimate	2694
Illegitimate	113

Nett deaths in the year—

Legitimate infants	234
Illegitimate infants	7

TABLE P 5.

Death-rates: comparison with rest of country.

	Annual death rate per 1000 civilian population									Rate per 1000 births		Percentage of total deaths			
	All causes	Enteric fever	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza	Violence	Diarrhoea and enteritis (under 2 years)	Total deaths under 1 year	Certified by Registered Medical Practitioners	Inquest cases	Certified by Coroner after P.M. No inquest	Uncertified causes of death
England and Wales	11.4	0.01	0.00	0.10	0.02	0.05	0.09	0.12	0.55	6.0	60	90.4	6.9	1.7	1.0
107 County Boroughs and Great Towns including London (census population exceeding 50,000)	11.5	0.01	0.00	0.15	0.02	0.05	0.10	0.11	0.50	8.3	64	90.6	6.6	2.3	0.5
159 Smaller Towns (1921 adjusted populations 20,000 to 50,000)	10.5	0.00	0.00	0.08	0.01	0.05	0.07	0.13	0.43	4.4	55	91.8	5.9	1.2	1.1
London	11.4	0.01	0.00	0.23	0.02	0.03	0.10	0.08	0.55	9.9	59	88.3	7.4	4.3	0.0
Birkenhead	11.7	—	—	0.02	—	0.12	0.17	0.12	0.38	16.7	86	91.2	4.6	4.1	0.0

LOCAL INDUSTRIES.

OCCUPATIONS.

The staple industries of the district are shipbuilding, ship-repairing and engineering.

Occupations of males and females aged 12 years and over.—A statement setting out the occupations of males and females aged 12 years and over at the time of the 1921 census was given in my annual report for 1923.

UNEMPLOYMENT.

The Minister of Health requests Medical Officers to give in their annual reports an indication of the extent of unemployment and of the amount of relief in their areas.

There was throughout the year a steady rise in the number of persons unemployed ; the returns for each month of the year are shown below:—

TABLE O 1.

Unemployed during 1930.

Month	Live register	Applicants placed	
		Locally	In other districts
January	5822	796	35
February	5932	581	16
March	5983	459	28
April	6086	656	91
May	6355	759	58
June	6483	837	107
July	6613	566	58
August	7345	577	40
September	8390	300	19
October	9234	725	35
November	9895	487	41
December	10188	432	13

AMOUNT OF PUBLIC ASSISTANCE RELIEF.

The following is a statement of the sums expended in public assistance in Birkenhead for the year ended 31st March, 1931:—

	£	s.	d.
Birkenhead Institution	£15,473	15	4
Birkenhead Infirmary	32,986	0	7
Eastham House	2,944	14	5
Children's Homes	3,356	11	9
Outdoor relief (in cash and kind)	46,082	16	1
Outdoor relief (on loan to unemployed)	6,388	7	5
Persons of unsound mind in Mental Hospitals, etc.	17,174	6	5
Persons maintained in other institutions not under the control of the Committee (includes certified schools, etc.)	4,959	7	9
	£129,365	19	9

WATER SUPPLY, FOOD, AND DRUGS.

Concern for the purity and adequacy of the water supply, and the supervision of milk and other foodstuffs with regard to quality and freedom from contamination or adulteration, are among the most important functions of a Public Health Authority.

To Local Authorities Medical Officers of Health are responsible for the supervision of measures adopted for the safeguarding of food supplies. It is laid down by the Ministry of Health that the Medical Officer of Health must " exercise general supervision over slaughter-houses, cold stores, dairies, cowsheds, milkshops, and all other premises within his district where food of any kind is prepared, stored, or otherwise dealt with for sale or preparation for sale and intended for the food of man. He will be concerned to secure in his district the effective application of the provisions of the Public Health Acts and other Acts and Regulations in force in that behalf with regard to food which is diseased, unsound, unwholesome, or unfit for human consumption."

The power to inspect meat and other foodstuffs is contained in Section 116 of the Public Health Act, 1875; and is conferred *only* upon (*a*) Medical Officers of Health, and (*b*) Sanitary Inspectors, for the control of whose work Medical Officers of Health are responsible (Ministry of Health Memorandum on Duties of Medical Officers of Health, 1925.).

In many of the larger County Boroughs, the staff of that section of the Public Health Department which deals with food inspection has been strengthened by the appointment of one or more qualified veterinary surgeons. This course was followed in Birkenhead when, in 1924, a whole-time Veterinary Officer was added to the staff of the Medical Officer of Health. Before, however, this officer could with full legal powers carry out the meat and food inspection duties for the discharge of which the appointment was created, and which were to occupy some threefourths of his time (the remaining fourth being given to care of the horses owned by the Corporation and to duties under the Diseases of Animals Acts and Orders) it was necessary for him to be designated, and given the powers of, a Sanitary Inspector. This is an anomalous situation to which attention should be given by the Ministry of Health when future legislative measures are under consideration. Statutory recognition should be given to Veterinary Officers as such, and to the fact that their work now forms an integral and important part of the work of Public Health Departments.

Mr. Harold Burrow, M.R.C.V.S., D.V.S.M., took up duty as Veterinary Officer and Chief Meat Inspector on the staff of the department on 1st August, 1930, in succession to Mr. H. L. Torrance.

At the end of the year the staff engaged on meat inspection consisted, in addition to the Veterinary Officer, of one meat inspector, one assistant inspector, one temporary assistant inspector, and two detention officers. The question of increasing this staff was under review by the Health Committee during the year, and recommendations made by them in this respect were approved by the Council, as a result of which additional appointments will be made early in 1931.

The Chief Sanitary Inspector, Mr. Alfred Longstaff, was responsible throughout the year for the taking of all samples of milk and other food stuffs, and of drugs, for chemical and bacteriological examination. A special Food and Drugs Inspector also devotes the greater part of his time to this work.

The chemical analysis of samples has been carried out for the Corporation during the past 17 years by Mr. H. E. Davies, M.A., B.SC., F.I.C., of Liverpool. It is with great regret that the death of Mr. Davies in April, 1930, has to be recorded. During the latter part of the year, under a temporary arrangement, this work has been undertaken by Mr. W. H. Roberts, M.SC., F.I.C., City Analyst, Liverpool.

The bacteriological examination of samples has been dealt with in the Municipal Laboratory.

THE WATER SUPPLY.

With the exception of Prenton Ward, all the Borough is supplied with water from the Corporation Waterworks at Alwen. The supply for Prenton comes from the West Cheshire Water Board.

The consumption of water in Birkenhead from the Alwen supply during the year ending 31st March, 1931, was 1,595,048,000 gallons.

Bacteriological examinations.—The bacteriological examination of the Alwen water supply is carried out in the laboratory in the Department. (The procedure followed was indicated in my annual report for 1923.)

During the past year, bacteriological examinations have been made in connection with:—

54 samples of tap water in Birkenhead.
12 samples of water from the Alwen Reservoir, before filtration.
21 samples of water at Alwen, after passing through the filtration apparatus.

The latter tests provide a very useful and sensitive check on the efficacy of the filtration process.

MILK SUPPLY.

The question of the milk supply was discussed fully in my annual report for 1927. During the past year still further improvement has been noticeable in the cleanliness of the milk sent into the Borough—a result which is due to the vigorous steps taken by the Health Authority.

Dairy farms.—Milk is supplied to the Borough chiefly from farms in Cheshire, Shropshire, Denbighshire and Flintshire.

(a) *Farms, etc., outside the Borough*—During the year 5 visits were paid by the Veterinary Officer, under the provisions of the Milk and Dairies (Consolidation) Act, 1915, to milk producers' farms outside the Borough in connection with milk samples which proved, upon examination at the Municipal Laboratory, to be tuberculous. These visits were made in company with the County Veterinary Inspectors of the districts concerned, and 196 cows in milk and 22 dry cows were examined. Samples from all cows suspected to be affected with tuberculosis were taken for examination by the County Authorities. In two cases one cow on each of the two farms inspected were found to be giving tuberculous milk and were slaughtered. In the third case the farmer had disposed of two cows during the interval between the taking of the original sample and the visit of the Veterinary Officer to the farm. Samples of milk embracing the whole herd proved negative in this case, and it is probable that the affected cow was one of the animals previously disposed of. In the remaining two cases the results of the examination of the samples of milk were not available by the end of the year.

(*b*) *Farms, etc., within the Borough.*—There were at the end of the year 16 cowsheds within the boundaries of the Borough, 12 of these being in the extended area.

During the year, under the provisions of Part IV. of the Milk and Dairies Order, 1926 (an Order made by the Minister of Health) quarterly examinations were made by the Veterinary Officer of all dairy cows within the Borough. At the end of the year there were 16 cowsheds at farms within the Borough with a combined total of 294 dairy cows supplying milk. 66 visits in all were paid to these farms, and 1,339 inspections of cows were made. 11 samples of milk were taken from cows showing induration of the udder, and these were examined microscopically for the presence of tubercle bacilli. In each case the result was negative. Two cows were discovered to be suffering from affections detrimental to the milk supply, and the use of their milk for human consumption was prohibited. One case of tuberculosis of the udder was detected. (This animal was subsequently slaughtered under the provisions of the Tuberculosis Order, 1925.)

Milkshops and the retail sale of milk—There are 148 registered milkshops in Birkenhead. In addition, the following are registered for retailing milk within the Borough—81 farmers resident outside Birkenhead, 2 " purveyors " of milk, and the owners of the 16 cowsheds within the Borough referred to in the preceding paragraph.

Applications for registration.—During the year 8 applications for registration—Milk and Dairies (Amendment) Act, 1922—have been received from persons desiring to retail milk within the Borough. All of these have been placed on the register.

Removals from register.—In 1 case a purveyor was persuaded to discontinue selling milk, and his name was removed from the register without the necessity of taking formal action.

Sale of " Graded " milk."—Under the Milk (Special Designations) Order, 1923, dealers' licences for the sale of graded milk are granted by the Council to suitable applicants. These licences are valid only for the period ending on the 31st December in the year in respect of which they are granted.

During the year 4 licences were granted to persons other than producers to retail *certified milk* within the Borough.

4 licences were granted to bottle and sell *Grade A* (*Tuberculin Tested*) *milk.*

4 licences were granted to sell *Grade A* (*Tuberculin Tested*) *milk.*

7 licences were granted to bottle and sell *Grade A milk.*

6 licences were granted to sell *Grade A milk.*

1 licence was granted to sell *Pasteurised milk.*

1 licence was granted to produce *Grade A milk.*

In connection with the licence granted to the producer of *Grade A milk* within the Borough, the Veterinary Officer visited the premises quarterly during the year, 275 dairy cows being examined. Among these, 7 cows were detected to be suffering from conditions requiring their exclusion from the herd, and were removed immediately.

The chemical and physical examination of milk.—During the year 277 samples of milk were taken for chemical analysis. Samples taken are submitted to chemical and physical examination with a number of different objects in view. The chief of these are—

The estimation of the amount of fat (cream) present.
The estimation of the amount of solids other than fat present.
The detection of the presence of added water.
The detection of the addition of colouring matter or thickening substances.
The detection of the addition of dried or condensed milk, or skimmed or separated milk.
The detection of the presence of preservatives.
The estimation of the quantity of dust or dirt, if any.

A. *Fat and non-fatty solids.*—The average composition of the milk samples taken during the year and submitted to chemical analysis was as follows:—

Fat	3.70%
Non-fatty solids	8.88%

The composition of each sample is indicated in Table F 1 (pages 84 to 85).

The action taken with regard to samples which were found to be below standard is shown in Table F 6 (page 94).

B. *Colouring matter, etc.*—No proceedings were instituted during the year under Section 4 of the Milk and Dairies (Amendment) Act, 1922 which prohibits the addition of any colouring matter, or water, or any dried or condensed milk, or any fluid reconstituted therefrom, or any skimmed milk or separated milk, to milk intended for sale. (Proceedings were instituted in certain cases under the Sale of Food and Drugs Acts for the addition of water to milk. See Table F 6, (page 94).

C. *Sediment.*—In milk as it comes from the udder there is practically no sediment—say not more than one grain per gallon of milk. The presence of a larger quantity of sediment in milk is an indication that dust or dirt has been allowed to gain access to it. Not infrequently this adventitious dirt consists of cow manure.

All samples taken during the year which were found to contain

(*a*) 6 parts by volume per 100,000; or
(*b*) dung in any quantity whatever

were treated in the same manner as adulterated samples, proceedings being instituted unless special circumstances were present.

Out of 277 milk samples taken, 2 (or 0.72%) were found to contain 6 parts per 100,000 or more of sediment; and 9 (or 3.24%) showed the presence of dung.

For details of action taken, see Table F 6 (page 94).

The bacteriological examination of milk.—The bacteriological examination of milk falls into three main divisions—

(a) An examination to ascertain the degree of general organismal contamination of the milk. This is recorded in various ways—for example, by stating number of bacteria present in one cubic centimetre (roughly a quarter of a teaspoonful) of the milk.

(b) An examination to ascertain whether bacillus coli (an intestinal organism) is present, and if so, in what quantities. This is primarily useful as an indication of contamination with cow manure.

(c) An examination to ascertain whether living tubercle bacilli are present. For this animal inoculation is necessary.

General organismal content and B. coli contamination.—Examinations for the estimation of the general organismal content of milk, and for the presence of bacillus coli, were begun in the municipal laboratory in 1925, when 12 samples were dealt with. In 1926, 42 were examined; in 1927, 54; in 1928, 56; in 1929, 85; and in 1930, 92 were dealt with.

The examinations have been confined to the " graded " milks for which the following standards have been prescribed by the Ministry of Health:—

Certified milk—Must not contain more than 30,000 organisms per c.c. or any bacillus coli in 1/10 of a c.c.

Grade A (tuberculin tested) and Grade " A " milk—Must not contain more than 200,000 organisms per c.c. or any bacillus coli in 1/100 of a c.c.

Pasteurised milk—Must not contain more than 100,000 organisms per c.c.

The results of the year's investigations are set out in Table F 2, on pages 86 to 88. The table should be read in conjunction with the above standards.

Contamination with B. Tuberculosis.—At the beginning of 1927 arrangements were made for the bacteriological examination in the municipal laboratory of samples of milk for the presence of living tubercle bacilli. The routine procedure followed is described above.

During the year 101 samples were examined. Of these 12 were found to contain living tubercle bacilli. This is equivalent to *11.8% of the total samples examined.*

In Table F 3 (page 89), a statement of the positive results of bacteriological examination for B. Tuberculosis is set out.

TABLE F 1.

Composition of milk samples taken during 1930.

Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat	Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat	Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat
Jan. 2	1	3.48	9.19	Feb. 5	79	3.36	8.16	Apl. 27	178	3.50	9.00
	2	3.66	8.90		80	3.71	8.57		179	4.50	8.50
	3	3.97	8.89		81	3.19	8.81		180	3.20	8.50
	4	3.80	8.84		82	3.38	8.87		181	3.10	9.15
	5	2.70	8.62	8	83	3.52	8.55		132	4.10	9.05
	6	4.90	8.81		84	3.25	8.75		183	3.40	8.95
6	7	2.58	8.63	16	101	3.40	9.36	29	184	3.85	8.80
8	8	3.71	8.82		102	3.55	9.06		185	4.00	8.80
	9	3.40	8.60		103	3.11	9.15	May 7	186	3.90	8.60
	10	3.74	8.92		104	3.43	8.90		187	3.60	9.05
	11	3.19	8.79		105	4.10	9.19		188	3.67	8.21
	12	3.55	9.06		106	3.00	8.78		189	4.30	8.75
	13	3.80	8.75	Mar. 5	107	3.75	8.85		190	4.50	9.30
	14	3.40	8.45		108	3.75	8.65		191	3.60	9.25
12	28	2.94	9.03		109	3.60	8.95	9	192	3.71	8.31
	29	3.22	8.78		110	2.47	8.67	16	206	3.35	8.35
	30	2.74	8.16		111	3.30	8.75		207	4.45	9.30
	31	3.77	7.91		112	3.75	9.05		208	3.40	8.90
	32	4.36	8.45	7	113	3.45	8.80		209	3.80	9.30
13	33	2.61	8.57	13	114	3.35	9.15		210	3.10	8.65
14	35	3.31	8.47		115	3.90	9.05		211	3.30	8.70
	36	2.79	8.07		116	4.20	8.95	18	212	4.30	9.35
16	37	3.25	9.03		117	3.25	9.05		213	3.90	8.95
	38	4.00	8.74		118	3.80	9.00		214	3.45	9.10
	39	3.88	8.80		119	3.30	9.00		215	3.20	9.50
	40	3.89	8.71	23	120	3.20	9.10		216	3.75	9.05
	41	3.55	8.98		121	3.50	8.70		217	3.70	9.25
	42	3.63	8.50		122	3.45	8.35	30	221	3.40	8.80
20	56	2.72	8.62		123	3.00	8.60		222	3.30	9.00
22	57	3.15	8.33		124	3.35	8.95		223	3.50	9.05
24	58	4.00	9.03		125	3.30	9.20		224	3.00	9.35
	59	3.72	8.66	26	126	3.50	8.75		225	3.00	9.30
	60	3.40	9.01	Apl. 2	127	3.30	8.80		226	3.10	9.25
	61	3.48	8.90		128	4.50	8 50	June 4	227	3.10	9.10
	62	3.47	8.67		129	4.10	8.95		228	3.90	9.10
	63	2.66	8.29		130	3 10	8.85		229	3.40	9.05
	64	3.39	9.08		131	2,73	10.93		230	3.65	8.55
	65	3.62	8.83		132	4.00	8.65		231	3.50	9.05
28	66	3.08	8.75		133	3.50	9.25		232	3.75	9.05
30	67	3.92	9.11	Apl. 10	149	3.80	8.75	19	248	3.70	9.05
	68	3.56	8.87		150	3.40	9.25		249	3.50	9.25
	69	3.60	8.77		151	3.85	8.95		250	3.80	9.25
	70	3.92	8.64		152	3.80	8.50		251	3.65	8.80
	71	4.69	8.65		153	3.20	8.60		252	3.35	9.05
	72	3.20	8.92		154	3.70	9.00		253	3.00	8.75
Feb. 4	73	3.50	8.43	23	156	3.70	8.70	25	254	4.10	8.27
	74	3.20	8.70		157	3.25	8.55		255	3.60	9.05
5	75	3.53	8.65		158	3.75	8.90		256	3.30	8.90
	76	3.70	9.05		159	3.30	8.80		257	3.45	9.60
	77	3.93	8.86		160	3.90	8.65		258	3.40	8.90
	78	3.60	8.83		161	4.40	8.60		259	3.95	8.75

TABLE F 1.—CONTINUED.

Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat	Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat	Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat
July 9	262	4.40	8.70	Oct. 1	353	4.55	9.00	Nov. 5	439	3.70	9.30
	263	3.90	8.75		354	3.40	8.80		440	4.70	9.25
	264	3.95	8.80		355	3.60	9.05	19	463	4.00	8.60
	265	4.00	8.80		356	4.30	9.00		464	4.60	9.20
	266	3.30	8.75		357	4.20	8.85		465	4.60	9.00
	267	4.60	8.80		358	3.80	9.20		466	4.40	9.80
13	283	3.20	8.85		359	3.20	8.80		467	4.40	9.40
	284	3.70	8.70		360	4.00	8.90		468	3.20	8.90
	285	3.00	8.90		361	3.75	8.80		469	4.05	9.20
	286	3.60	8.50	9	385	3.70	8.95		470	3.20	8.75
	287	3.85	8.55		386	3.70	8.95		471	3.50	8.95
	288	3.00	8.80		387	4.10	9.25	23	472	4.15	9.15
Aug. 6	289	3.10	9.20		388	3.40	8.80		473	3.70	9.25
	290	3.85	8.40		389	3.55	9.00		474	3.40	9.20
	291	3.50	8.95		390	3.60	9.15		475	3.50	9.00
	292	3.45	8.95		391	3.70	9.10		476	3.75	8.83
	293	4.95	8.30		392	3.25	9.40		477	3.40	8.80
	294	4.25	8.90		393	3.75	9.15	25	478	3.70	8.95
13	311	4.00	9.15	12	394	3.40	8.90		479	3.70	8.90
	312	4.10	8.60		395	3.90	8.80		480	4.40	8.50
	313	4.00	9.30		396	3.75	9.30		481	4.00	9.50
	314	3.90	8.80		397	4.15	9.50	Dec. 5	530	3.60	9.10
	315	4.10	8.65		398	3.70	9.25		531	3.65	9.30
	316	3.00	8.50		399	4.20	8.55		532	3.85	8.95
	317	3.10	9.10		400	3.70	9.10		533	3.25	8.95
21	336	3.80	9.10	14	401	3.90	9.05		534	3.90	8.90
	337	3.95	9.10	20	402	3.40	8.90		535	4.25	9.15
	338	3.00	8.75		403	3.40	9.10		536	4.00	8.60
	339	5.00	9.15		404	3.30	8.80		537	4.20	9.00
	340	3.55	8.90	31	427	3.05	9.05		538	3.50	8.85
	341	3.40	8.70		428	4.40	9.10	14	539	4.50	8.85
	342	5.00	9.10		429	3.80	9.15		540	3.30	8.70
	343	3.45	8.90		430	4.70	9.15		541	3.70	8.90
	344	4.60	8.95		431	3.15	9.25		542	3.90	9.10
31	345	4.20	8.95		432	4.05	8.60		543	3.80	9.20
	346	4.30	8.90		433	7.35	8.80	17	544	3.00	9.00
	347	4.00	8.50		434	3.80	8.85		545	3.30	9.10
	348	4.00	8.75		435	4.30	9.15		546	3.80	9.15
	349	4.60	8.60	Nov. 5	436	3.90	9.05		547	3.40	8.85
	350	5.25	8.55		437	3.90	9.10		548	3.80	8.75
	351	3.50	9.00		438	3.95	9.15		549	4.00	8.50
									550	4.20	8.80

Average percentage............ Fat, 3.70 ... Solids (not fat), 8.88

TABLE F 2.

Bacteriological examinations of graded milk.

Con-sec. No.	Lab. No.	Grade	Temperature on arrival at laboratory	Age of sample —hours	Number of colonies on plate				Number of bacteria per c.c	Presence of bacillus coli in tubes									
										24 hours					48 hours				
					1/10 c.c	1/100 c.c	1/1000 c.c	Control		1	2	3	1 c.c	Control	1	2	3	1 c.c	Control
1	266	"A"	52°	5	488	83	9	3	4,880	found	nil	nil	nil	satisfy.	found	nil	nil	nil	satisfy.
2	267	"A"	55°	5	1520	128	21	0	12,800	found	found	found	found	satisfy.	found	found	found	found	satisfy.
3	268	"A"	50°	5	433	30	8	0	4,330	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
4	269	"A"	51°	4	596	59	5	11	5,960	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
5	270	"A"	53°	5	234	13	1	3	2,340	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
6	271	"A"	58°	5	386	62	12	12	3,860	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
7	272	"A"	47°	5	63	15	3	0	630	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
8	273	"A" (T.T.)	50°	5	127	14	5	1	1,270	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
9	274	"A"	47°	4	—	255	37	1	25,500	found	found	found	found	satisfy.	found	found	found	found	satisfy.
10	275	"A"	52°	5	476	78	12	0	4,760	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
11	276	"A" (T.T.)	45°	5	58	6	2	1	580	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
12	277	"A"	47°	5	388	41	5	0	3,880	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
13	278	"A" (T.T.)	47°	6	109	16	2	6	1,090	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
14	279	"A" (T.T.)	50°	6	150	7	4	1	1,500	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
15	280	"A"	42°	19	184	17	3	0	1,840	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
16	281	"A"	45°	5	368	34	0	2	3,680	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
17	282	"Pasteurised"	50°	†A.P.	5510	27	2	1	55,100	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
18	283	"A" (T.T.)	49°	5	206	29	3	1	2,060	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
19	284	"A"	48°	5	408	23	6	1	4,080	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
20	285	"A"	59°	5	360	27	3	0	3,600	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
21	286	"A"	49°	5	*O.G.	154	17	0	15,400	nil	nil	nil	nil	satisfy.	nil	nil	nil	found	satisfy.
22	287	"A"	52°	5	*O.G.	77	15	0	7,700	nil	nil	nil	nil	satisfy.	nil	nil	nil	found	satisfy.
23	288	"A"	50°	5	*O.G.	160	24	0	16,000	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
24	289	"A"	50°	5	135	16	2	2	1,350	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
25	290	"A" (T.T.)	55°	4	460	40	6	16	4 600	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
26	291	"A"	55°	5	328	35	1	—	3,280	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
27	292	"Certified"	50°	5	776	60	5	1	7,760	nil	nil	nil	nil	—	nil	nil	nil	nil	—
28	293	"A" (T.T.)	55°	5	452	35	4	1	4,520	nil	nil	nil	found	—	nil	nil	nil	found	—
29	294	"A"	53°	5	222	30	2	2	2,220	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy
30	295	"A"	59°	5	*O.G.	308	49	0	30 800	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.

32	297	“A”	57°	5	*O.G.	56	7	0	5,600	nil	nil	nil	nil	satisfy.	nil	nil	nil	found	satisfy.
33	298	“A”	48°	28	*O.G.	198	27	1	19,800	found	found	found	nil	satisfy.	found	found	found	found	satisfy.
34	299	“A”	60°	5	*O.G.	*O.G.	1068	2	1,068,000	nil	nil	nil	nil	—	nil	nil	nil	nil	—
35	300	“A”	57°	5	274	30	0	1	2,740	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
36	301	“A”	57°	6	—	60	3	5	6,000	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
37	302	“A” (T.T.)	55°	29	147	11	2	2	1,470	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
38	303	“A”	60°	5	*O.G.	108	12	0	10,800	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
39	304	“A” (T.T.)	60°	4	126	5	4	4	1,260	nil	nil	nil	nil	satisfy.	nil	nil	nil	found	satisfy.
40	305	“A”	62°	5	508	79	10	0	5,080	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
41	306	“A”	64°	4	446	67	5	3	4,460	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
42	307	“A”	63°	4	235	34	2	0	2,350	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
43	308	“A”	65°	4½	5400	363	67	1	36,300	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
44	309	“A”	67°	4½	1710	146	10	1	14,600	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
45	310	“A” (T.T.)	72°	4½	*O.G.	5415	870	0	870,000	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
46	311	“A”	75°	4½	384	29	0	1	3,840	nil	nil	nil	found	satisfy.	nil	nil	nil	found	satisfy.
47	312	“A”	65°	4	512	39	5	3	5,120	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
48	313	“A”	54°	4	255	24	3	4	2,550	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
49	314	“Certified”	63°	5	122	13	2	0	1,220	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
50	315	“A” (T.T.)	65°	5	386	92	‡C	1	3,860	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
51	316	“Pasteurised”	61°	20	*O.G.	3990	748	1	748,000	found	found	found	found	satisfy.	found	found	found	found	satisfy.
52	317	“A” (T.T.)	65°	15½	*O.G.	570	82	1	57,000	nil	nil	nil	found	satisfy.	nil	nil	found	found	satisfy.
53	318	“A” (T.T.)	66°	29	*O.G.	944	97	0	94,400	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
54	319	“A”	65°	17	431	48	3	0	4,310	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
55	320	“A”	65°	17	*O.G.	*O.G.	1680	2	1,680,000	found	nil	nil	nil	satisfy.	found	found	found	found	satisfy.
56	321	“A”	61°	4	*O.G.	329	30	1	32,900	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
57	322	“Pasteurised”	62°	21	*O.G.	195	12	1	19,500	found	found	found	found	satisfy.	found	found	found	found	satisfy.
58	323	“A” (T.T.)	63°	16½	*O.G.	*O.G.	368	1	368,000	nil	found	nil	found	satisfy.	found	found	found	found	satisfy.
59	324	“A”	63°	18½	*O.G.	*O.G.	482	1	482,000	found	found	found	found	satisfy.	found	found	found	found	satisfy.
60	325	“Certified”	62°	26½	364	31	3	2	3,640	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.
61	326	“A”	65°	2½	*O.G.	462	32	1	46,200	found	nil	found	found	satisfy.	found	nil	found	found	satisfy.
62	327	“A”	62°	3½	658	75	2	1	6,580	nil	nil	nil	nil	satisfy.	nil	nil	nil	found	satisfy.
63	328	“A”	64°	3½	826	76	9	2	8,260	found	nil	nil	found	satisfy.	found	nil	nil	found	satisfy.
64	329	“A”	60°	4	*O.G.	293	13	0	29,300	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy.

TABLE F 2.—CONTINUED.

Consec. No.	Lab. No.	Grade	Temperature on arrival at laboratory	Age of sample —hours	Number of colonies on plate				Number of bacteria per c.c.	Presence of bacillus coli in tubes									
										24 hours					48 hours				
					1/10 c.c	1/100 c.c	1/1000 c.c	Control		1	2	3	1 c.c	Control	1	2	3	1 c.c	Control
65	330	"A" (T.T.)	61°	4	304	27	1	1	3,040	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
66	331	"A"	56°	4½	*O.G.	157	11	2	15,700	nil	nil	nil	found	satisfy	found	found	found	found	satisfy
67	332	"A" (T.T.)	56°	4½	177	21	2	1	1,770	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
68	333	"A"	61°	3	362	24	6	1	3,620	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
69	334	"A"	63°	3	*O.G.	159	11	0	15,900	nil	nil	nil	found	satisfy	nil	nil	nil	found	satisfy
70	335	"A" (T.T.)	56°	29½	221	19	6	0	2,210	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
71	336	"A"	59°	27½	*O.G.	166	14	4	16,600	nil	nil	nil	found	satisfy	found	nil	found	found	satisfy
72	337	"A" (T.T.)	56°	3½	608	11	5	4	6,080	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
73	338	"A" (T.T.)	60°	17½	722	26	7	0	7,220	nil	nil	nil	found	satisfy	nil	nil	nil	found	satisfy
74	339	"A"	54°	4	*O.G.	422	47	0	42,200	nil	nil	nil	found	satisfy	nil	nil	nil	found	satisfy
75	340	"A"	56°	4	*O G.	171	16	2	17,100	nil	nil	nil	nil	satisfy	found	found	nil	found	satisfy
76	341	"Certified"	50°	5½	*O.G.	246	26	0	24,600	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
77	342	"A" (T.T.)	54°	5½	373	28	3	2	3,730	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
78	343	"A"	55°	29	*O.G.	654	53	0	65,400	found	found	found	nil	satisfy	found	found	found	found	satisfy
79	344	"A"	59°	4	200	14	3	0	2,000	nil	nil	nil	found	satisfy	nil	nil	nil	found	satisfy
80	345	"A" (T.T.)	49°	29	264	28	1	2	2,640	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
81	346	"A"	49°	4	298	32	4	2	2,980	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
82	347	"A"	54°	2½	*O.G.	*O.G.	82	0	82,000	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
83	348	"A"	55°	2½	*O.G.	308	26	0	30,800	nil	nil	nil	found	satisfy	nil	nil	nil	found	satisfy
84	349	"A"	56°	4	204	40	9	‡C	2,040	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
85	350	"A"	58°	4	*O.G.	*O.G.	562	‡C	562,000	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
86	351	"A"	50°	5	303	31	2	0	3,030	nil	nil	nil	nil	satisfy	nil	nil	found	nil	satisfy
87	352	"A" (T.T.)	51°	5	84	12	3	0	840	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
88	353	"A"	53°	18½	170	17	2	2	1,700	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
89	354	"A" (T.T.)	53°	28½	263	51	15	2	2,630	nil	nil	found	nil	satisfy	found	nil	found	found	satisfy
90	355	"A"	56°	3	*O.G.	82	10	15	8,200	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
91	356	"A"	56°	5	*O.G.	64	5	15	6,400	nil	nil	nil	nil	satisfy	nil	nil	nil	nil	satisfy
92	357	"A"	54°	3½	*O.G.	*O.G.	113	3	113,000	nil	nil	nil	nil	satisfy	found	found	found	found	satisfy
93	358	"A" (T.T.)	50°	5	167	41	4	3	1,670	nil	nil	nil	nil	satisfy.	nil	nil	nil	nil	satisfy

*O.G.—overgrown. †A.P.—after pasteurisation. ‡C—contaminated.

TABLE F 3.

Bacteriological examinations of milk for tubercle bacilli.

Consec. No.	Lab. No.	Acid fast bacilli in smears	Cavy injected	Result	Pathological findings	Remarks
15	213	Not found	P 303 P 340	Died Killed	Toxæmia ... ... Tubercular	One cow found tubercular and dealt with under the Tuberculosis Order.
25	223	Not found	P 297 P 350	Died Killed	Nephritis ... ... Tubercular	One cow found tubercular and slaughtered.
34	232	Not found	P 333 P 357	Killed Killed	Tubercular ... ... Tubercular	One cow found tubercular and dealt with under the Tuberculosis Order.
45	243	Not found	P 329 P 370	Died Killed	Nil .... Tubercular	One cow found tubercular and dealt with under the Tuberculosis Order.
60	258	Not found	P 377 P 394	Killed Killed	Tubercular ... ... Tubercular	One cow found tubercular and dealt with under the Tuberculosis Order.
64	262	Not found	P 355 P 398	Died Killed	Tubercular ... ... Tubercular	Two cows found tubercular and dealt with under the Tuberculosis Order.
69	267	Not found	P 364	Died	Tubercular	Not definitely traced. One cow sold and killed after sample was taken.
70	268	Not found	P 399 P 400	Killed Died	Tubercular ... ... —	One cow found tubercular and dealt with under the Tuberculosis Order.
75	273	Not found	P 411 P 412	Killed Killed	Not Tubercular .. ... Tubercular	One cow found tubercular and dealt with under the Tuberculosis Order.
81	279	Not found	P 417	Killed	Tubercular	One cow found tubercular and slaughtered.
91	289	Not found	P 440	Killed	Tubercular	One cow found tubercular and dealt with under the Tuberculosis Order.
101	299	Not found	P 444	Killed	Tubercular	Not traced.

OTHER FOODS : DRUGS

Abattoirs in Birkenhead.—Particulars regarding these — the abattoir within the Woodside Lairages and the Corporation abattoir at Tranmere—were given in my annual report for 1920.

Meat inspection at Lairages and Abattoir.—The Veterinary Officer reports that during the year there were killed 54,879 oxen, 1,425 calves, 4,090 pigs, 11,339 sheep, as set out in Table F 4.

TABLE F 4.

Animals dealt with during 1930.

	Oxen	Calves	Pigs	Sheep	Goats	Total
No. of animals landed from vessels at Birkenhead during the year 1930—						
(*a*) From Isle of Man	517	—	234	4703	—	5454
(*b*) From Ireland	262564	—	65417	310676	186	638843
(*c*) From Canada (stores)	455	—	—	—	—	455
(*d*) From other places abroad............	805	—	—	—	—	805
Total.........	264341	—	65651	315379	186	645557
The above animals were dealt with as follows—						
A—Slaughtered in Birkenhead—						
At Woodside lairages, nos. 4 and 5 sheds, and at "Wallasey Stage," Birkenhead	54543	—	196	261	—	55000
B—(1) Removed alive from the district	208592	—	65142	314885	186	588805
(2) Not slaughtered by end of 1930 (still in lairages)	1206	—	313	233	—	1752
Total.........	264341	—	65651	315379	186	645557
No. of animals slaughtered in Birkenhead not included in the above statement— At Municipal Abattoir...	336	1425	3894	11078	—	16733
Total animals slaughtered in Birkenhead................................	54879	1425	4090	11339	—	71733

All animals slaughtered at the abattoir at Tranmere, at Wallasey Stage, and at Nos. 4 & 5 Sheds, Wallasey; and a considerable proportion of the animals slaughtered at Woodside Lairages were examined by the meat inspection staff.

The following statement is a summary of the meat, etc., condemned by the meat inspection staff at the lairages and abattoir during the year and surrendered by the owners for destruction. Formal seizure was necessary in three cases and magistrates' orders for the destruction of the meat were obtained:—

The total number of carcases seized was:—

At Woodside	144	weighing	83,449 lbs.
At Wallasey Stage	118	,,	36,038 lbs.
At Nos. 4 & 5 Sheds	9	,,	353 lbs.
At Tranmere Abattoir	49	,,	8,921 lbs.
	320	,,	128,761 lbs.

158 of the above carcases were seized on account of tuberculosis; their aggregate weight being 78,467 lbs. The remainder was seized on account of transit injuries, dropsy, sepsis, etc.

The number of parts of carcases seized was:—

At Woodside	305	weighing	21,900 lbs.
At Wallasey Stage	26	,,	1,536 lbs.
At. Nos. 4 & 5 Sheds	7	,,	30 lbs.
At Tranmere Abattoir	170	,,	2,442 lbs.
	508	,,	25,908 lbs.

Of the above, 425 were seized on account of tuberculosis; their aggregate weight being 21,921 lbs.

The total weight of offal seized was 282,408 lbs.

Tuberculosis in calves.—Of 1,425 calves slaughtered, 7 were affected with generalised tuberculosis—0.5% of the total.

Canadian cattle.—During the year 436 Canadian cattle were slaughtered at Woodside. No beef from these cattle was condemned, and the total offal condemned from them was 360 lbs.—an average of 0.8 lbs. per animal.

Irish and Isle of Man cattle.—From 54,107 Irish and Isle of Man cattle slaughtered at Woodside, No. 4 Shed, and Wallasey Stage during the year, the weight of beef condemned was 139,706 lbs., and of offal condemned 261,791 lbs., an average of 2.6 lbs. beef per animal and 4.8 lbs. offal per animal.

Inspection of meat and other foods at shops.—During the year visits have been paid by the Inspectors to the premises of 804 butchers, 61 fishmongers, 52 fishfryers, and 2 grocers. The cleanliness of the premises and the processes carried out therein were supervised and a general inspection of the meat and foods exposed for sale has been carried out. The total amount of foodstuffs condemned at the shops was 3,540 lbs.

Total weight of condemned meat and other foods during 1930.—The total weight of beef, mutton, pork and veal condemned at the slaughter-houses at the lairages and abattoir was 437,077 lbs. This, together with 3,540 lbs. of meat and food condemned at shops, gives a total of 440,617 lbs. (196 tons, 14 cwts., 0 qrs., 9 lbs.) of food condemned within the Borough during the year.

Grading and marking of beef.—At Woodside Lairages the "grading" and "marking" of beef consigned to London has been carried out during the year by the Government Grader under the

Government Experimental Scheme for grading and marking home-killed beef. Practically the whole of the beef sent from Woodside to London is graded and marked; the bulk being graded and marked " Select " and " Prime " (*i.e.*, 1st and 2nd qualities). Beef for local sale, however, is not yet graded or marked.

Examination of imported sheep for caseous lymphadenitis.—During the year 1,295 imported sheep carcases have been received into the Borough on licence from the Port of London Sanitary Authority. A 10% proportion of these were examined for caseous lymphadenitis, but no disease was found and the consignments were freed for sale.

Export of animal casings.—Certificates of freedom from disease were given in respect to the following consignments of animal casings prepared from animals slaughtered within the Borough:—

To U.S.A.—2 tierces of beef bladders—12 cwts.
To Holland—23 tierces of beef casings—122 cwts.

The importation into Canada of meat food products derived from animals slaughtered in the United Kingdom was prohibited as from November 1st, 1930.

Prosecutions.—During the year three prosecutions were taken against meat traders for offences against provisions of the Public Health Acts and Public Health (Meat) Regulations, 1924, and fines of £90, 10/- and 8/- respectively were imposed by the magistrates.

Samples taken under Food and Drugs Acts.—During the year 561 samples were taken. Of these 282 were formal and 279 informal. 277 were samples of milk, already referred to on page 82.

The articles sampled are set out in the following table:—

TABLE F 5.

Samples taken during 1930.

Article	No. samples taken formally	No. samples taken informally	Article	No. samples taken formally	No. samples taken informally
Milk	277	...	Bloater paste	...	1
Condensed milk	...	12	Crab paste	...	1
Butter	...	20	Lobster and crab paste	...	1
Lard	...	16	Potted shrimps	...	1
Margarine	...	16	Ginger wine	...	1
Self-raising flour	...	7	Raspberry cordial	...	1
Oatmeal	..	3	Rice	...	1
Pepper	1	16	Ammo. tinc. of quinine	..	2
Cheshire cheese	...	14	Oil of peppermint	...	1
Coffee	..	7	Zinc ointment	...	2
Ground ginger	...	2	Epsom salts	...	5
Honey	...	1	Glauber salts	...	5
Mustard	...	1	Sulphur ointment	..	4
Tea	...	5	Camphorated oil	...	3
Sugar	...	3	Seidlitz powder	...	1
Sausage	1	13	Glycerine	...	3
Minced beef	...	10	Olive oil	1	7
Beef dripping	....	9	Castor oil	...	3
Borax	...	1	Almond oil	...	2
Canned fruits	...	3	Boracic ointment	...	4
Ground almonds	...	5	Eucalyptus oil	...	3
Cream and tinned cream	...	5	Medicine	....	1
Shredded suet	...	1	Eucalyptus ointment	...	1
Cocoa	...	3	Tincture of iodine	...	5
Confectionery	...	5	Liquorice powder	...	1
Cakes	...	6	Vaseline	...	2
Jam	2	6	Cod liver oil	...	1
Sauce	...	2	Cream of tartar and sulphur tablets	...	1
Malt vinegar	...	2	Sulphur tablets	...	2
Cornflour	...	1	Honey, glycerine and lemon	....	1
Egg substitute powder	...	1	Liquorice and menthol pellets	...	1
Marmalade	...	1	Malt and cod liver oil	...	1
Lemon cheese	..	2	Menthol & eucalyptus tablets	...	1
Mincemeat	...	2	Spirits of turpentine	...	1
Pickles	...	3			
Baking powder	...	1			
Polony sausage	...	1			
Chicken and ham paste	...	1			
Chicken, ham and tongue paste	...	1			

Samples analysed formally	282
Samples analysed informally	279
Total samples analysed during the year	561

Of the total number of samples analysed

- 29 samples of milk
- 1 sample of butter
- 3 samples of jam
- 2 samples of pepper
- 1 sample of vinegar
- 2 samples of beef sausage
- 2 samples of olive oil

were reported adulterated, and proceedings were taken in respect of:—

- 4 samples of milk
- 1 sample of pepper
- 1 sample of sausage
- 1 sample of olive oil

With reference to the remaining samples reported adulterated it was decided, after consideration of the circumstances, that it was inadvisable to institute proceedings.

Informal samples.—Suitable action was taken regarding each of the 7 informal samples reported adulterated.

Particulars of the defects found in those samples with regard to which proceedings were taken, and the result of the proceedings, are set out in Table F 6.

The composition of each sample of milk analysed during the year will be found in Table F 1.

TABLE F 6.

Samples with reference to which proceedings were taken.

Nature of adulteration and result of proceedings.

Date	Article	No. of sample	Adulteration	Fine inflicted
Jan. 12	Milk	31	7% added water	£1 and 10/6 costs
13	Pepper	34	Contained 75% rice starch	6/- and 10/6 costs
24	Milk	63	9% deficient in fat and 2½% added water	Withdrawn
Feb. 5	Milk	79	4% added water. Dirt and dung 8 parts by volume per 100,000	£2 and 10/6 costs
Mar. 5	Milk	110	17% deficient in fat	£1 and 10/6 costs
Apr. 15	Beef sausage	155	12% deficient in meat	Withdrawn
July 5	Olive oil	261	Devoid of Olive Oil and consisted of Soya Bean Oil	Dismissed

It will be noticed from the foregoing table that proceedings have been instituted in 1 instance for the presence of dirt in milk.

In 5 cases the vendors of dirty milk were warned that proceedings would be instituted if some improvement was not effected with regard to the dirt content of the milk.

TUBERCULOSIS.

ADMINISTRATIVE ARRANGEMENTS.

The arrangements made by the Birkenhead Corporation for dealing with tuberculosis in the area include

(*a*) The provision of a dispensary or clinic, opened in 1913. (This clinic is used on one half-day each week in connection with cases from the area of the administrative county of Chester.)

(*b*) The provision of garden shelters for suitable cases at a small rent.

(*c*) The retention since August, 1914, of twelve beds at Leasowe Hospital for cases of surgical tuberculosis in children.

(*d*) A joint arrangement with the Cheshire County Council, and the Councils of the County Boroughs of Wallasey, Chester, Stockport, and Stoke-on-Trent, for the provision of a sanatorium at Burntwood.

(*e*) The provision of a residential institution at Thingwall, Birkenhead.

Staff.—Consequent upon the resignation of Dr. H. Mason Leete, which took place on 31st July, 1930, a revision of the medical arrangements for the treatment of tuberculosis took place. Dr. F. G. Foster was appointed Clinical Tuberculosis Officer and has charge of the clinic and other branches of the work, including the care and treatment of the patients at Thingwall Sanatorium. Thus all cases of tuberculosis dealt with under the scheme of the Local Authority are under the control of one Assistant Medical Officer acting under the direction of the Medical Officer of Health.

The equivalent of the whole time of two Health Nurses is available for attending the clinic and for visiting the homes of patients.

Records.—During the year a complete revision of the arrangements for keeping the records at the clinic was carried out.

Clinic premises.—Attention is again directed to the inadequacy and unsuitability of the present clinic accommodation and to the urgent need for provision of more efficient facilities to enable the work to be carried out in a satisfactory manner.

During the past year special difficulty was experienced at the Clinic in carrying out the examination of patients. Owing to constructional work which has been in progress in connection with the new Mersey tunnel, a large number of men were constantly working in the street in which the clinic is situated, and engines, pneumatic drills, etc., were in use continually. Examination of chests, which calls for complete silence, and which entails the most exacting concentration in percussion and auscultation, has been carried out at all times under the greatest difficulty, and on some occasions the examination of patients has had to be postponed.

The Corkhill Fund.—Under the will of the late Mr. John Lloyd Corkhill, of Oxton, a sum of money was provided for the assistance of persons suffering from consumption. By arrangement with the trustees, persons applying for help from the charity are passed through the municipal clinic for classification; and the trustees have been largely guided by the recommendations of the medical staff of the clinic.

PREVALENCE OF, AND MORTALITY FROM, TUBERCULOSIS.

Notifications.—The total number of primary cases of tuberculosis notified during 1930 was 269—203 respiratory and 66 non-respiratory. An analysis of these cases with reference to age and sex will be found in Table T 1 (page 102).

Mortality.—The total number of deaths, certified as due to tuberculosis, of patients who had previously been notified as suffering from the disease was 149—129 respiratory and 20 non-respiratory.

The total number of deaths, certified as due to tuberculosis, of patients who had *not* previously been notified as suffering from tuberculosis was 21—12 respiratory and 9 non-respiratory.

Adding these together, the total number of deaths certified as due to tuberculosis was as follows:—

Respiratory	141
Non-respiratory	29
	170

An analysis of the tuberculosis mortality for the past fifteen years will be found in Table T 2 (page 102).

An analysis of the tuberculosis mortality during 1930 with reference to age and sex will be found in Table T 3 (page 103).

Number of known cases.—After making deductions for patients who had died during the year, or who had permanently left the district, or whose names have been taken off the register as provisionally cured, the total number of known cases of tuberculosis in Birkenhead at the end of 1930 was as follows:—

		Insured persons		Dependents of insured persons	Neither insured persons nor dependents	Total
		Ex-service men	Others			
Respiratory	Male	31	564	145	30	770
	Female	—	246	115	397	758
Non-respiratory	Male	4	62	317	—	383
	Female	—	81	297	41	419
Total	Male	35	626	462	30	1153
	Female	—	327	412	438	1177
Total		35	953	874	468	2330

A revision of the cases of tuberculosis on the register is carried out each year, with a view to seeing that, so far as is practicable, only the names of patients still suffering from tuberculosis, and resident in Birkenhead, are kept on the roll. In connection with the revision the following procedure is observed:—

(1) *Non-respiratory tuberculosis.* Cases of non-respiratory or surgical tuberculosis are struck off the register as cured when complete arrest of the disease has been maintained for three years.

(2) *Respiratory tuberculosis.*

(*a*) *Patients who have probably been wrongly notified as tuberculous.*

If the conclusion is come to that a notified case is not, and probably never was, one of active tuberculosis, the name is crossed off the register at the time of the annual revision after obtaining, if possible, the assent of the notifying practitioner.

(*b*) *Patients diagnosed on good evidence as suffering from respiratory tuberculosis, who at a later stage appear to have been cured.*

Such cases are not removed from the register until at least five complete calendar years have elapsed since the date of notification, and three complete calendar years after the disappearance of all symptoms.

Of the 141 patients who died from respiratory tuberculosis during 1930 those who had been notified

over four years numbered ...	15	(10.6% of total)
under ,, ,, ,, ...	1	(0.7% ,,)
,, three years ,, ...	7	(5.0% ,,)
,, two years ,, ...	23	(16.3% ,,)
,, one year ,, ...	18	(12.8% ,,)
,, six months ,, ...	18	(12.8% ,,)
,, three months ,, ...	12	(8.5% ,,)
,, one month ,, ...	20	(14.2% ,,)
,, one week ,, ...	15	(10.6% ,,)
and those who had not been notified numbered	12	(8.5% ,,)

Thus only 58.1% of these cases were notified to this department three months or more before death.

Of the 29 patients who died from non-respiratory tuberculosis during 1930 those who had been notified

over three years numbered ...	5	(17.2% of total)
under three years ,, ...	—	(— ,,)
,, one year ,, ...	—	(— ,,)
,, six months ,, ...	4	(13.8% ,,)
,, one month ,, ...	3	(10.4% ,,)
,, one week ,, ...	8	(27.6% ,,)
and those who had not been notified numbered	9	(31.0% ,,)

7 persons previously notified as suffering from tuberculosis died from other causes. These deaths were certified as being due to:—

Cancer	2
Pneumonia	2
Valvular disease of heart	1
Cystitis	1
Cerebral hæmorrhage	1

The medical practitioners who failed to notify cases were communicated with, and satisfactory explanations were received in all cases.

CASES DEALT WITH THROUGH THE TUBERCULOSIS CLINIC.

Attendances of patients at the clinic.—During the year 1,667 examinations were made. Of these 626 were *first* examinations (*i.e.*, examinations of patients who had not been seen previously at the clinic).* In addition to attendances made for the purpose of medical examination, 1,190 other attendances were made by patients for weighing, interview, advice or certification, and by patients' relatives in connection with questions arising as to treatment, removal, home conditions, etc.

* This number includes contacts.

Examination of patients who were notified for the first time during 1930.—Of the 269 new patients notified in 1930, 127 were examined at the clinic during the year. The remaining 142 were not referred to, did not attend at, or were previously examined at, the clinic.

Classification of new cases.—The 626 new patients who attended during the year were classified as follows:—

		*Adults	Children	Total
Classed as suffering from respiratory tuberculosis	Males ...	64	2	66
	Females	55	2	57
Classed as suffering from other forms tuberculosis	Males ...	3	12	15
	Females	7	10	17
Classed as non-tuberculous	Males ...	78	130	208
	Females	77	120	197
Classed as "suspect"	Males ...	18	12	30
	Females	14	22	36
Total...	Males	163	156	319
	Females	153	154	307
	Total......	316	310	626

* All patients of fifteen years and upwards are classed as adults.

Pensions cases.—Included in the 626 new cases were 6 patients examined for pensions purposes, with the following results:—

Found to be suffering from tuberculosis	3
Found to be free from active tuberculosis	3

During the year the following reports were made in connection with the examination at the tuberculosis clinic (or at their own homes) of ex-servicemen:—

War Pensions Committee.	M.P.M.S. D. 81 A	36 T.O.	M.P.M.S. D. 122	Total
Birkenhead	—	—	—	—
Liverpool	—	—	2	2
Total	—	—	2	2

Examination of contacts.—174 persons who had been in close contact with known cases of tuberculosis were examined either at the clinic or at their homes, and were classified as follows:—

		*Adults	Children	Total
Classed as suffering from respiratory tuberculosis	Males ...	—	—	—
	Females	—	1	1
Classed as suffering from other forms of tuberculosis	Males ...	—	1	1
	Females	—	—	—
Classed as non-tuberculous..............	Males ...	13	58	71
	Females	17	78	95
Classed as "suspect"	Males ...	1	2	3
	Females	—	3	3
Total...	Males ...	14	61	75
	Females	17	82	99
	Total......	31	143	174

* All patients of fifteen years and upwards are classed as adults.

HOME VISITING; DISINFECTION; COMPULSORY TREATMENT; ETC.

During the year the health nurses paid 267 first visits and 2,483 re-visits to the homes of patients.

The number of houses disinfected after death or removal of patients was 103.

Spitting flasks were provided free of charge to 26 patients.

The compulsory removal to hospital for a period not exceeding 3 months of a person suffering from pulmonary tuberculosis in an infectious state and whose condition is a danger to other members of the house is provided for by the Public Health Act, 1925 (Sec. 62).

The power to prevent a person suffering from tuberculosis of the respiratory tract from entering upon any employment or occupation in connection with a dairy which would involve the milking of cows, the treatment of milk, or the handling of vessels used for containing milk, is given to a Local Authority under the Public Health (Prevention of Tuberculosis) Regulations, 1925.

It was not found necessary during the year to make use of the above powers in Birkenhead.

THINGWALL SANATORIUM.

Patients dealt with.—At the commencement of the year there were 33 patients in the Sanatorium. There were 49 admissions during the year. These were classified as follows:—

Tuberculosis of bones and joints	7
,, abdominal glands or peritoneum..	7
,, cervical and other glands	8
,, testicle	1
,, lungs (all non-infectious cases)...	4
For observation and diagnosis............................	22

50 patients were discharged or transferred to other institutions; no deaths occurred. The condition on discharge may be summarised as follows:—

Disease quiescent	22
Improved	10
No material improvement	6
Found after observation not to be suffering from tuberculosis	12

There were 32 patients under treatment at the end of the year.

Treatment.—This has been carried out on broad general lines as in former years. Non-pulmonary tuberculosis does not call for any special measure except in the case of disease of bones and joints, where immobilisation by splints or frames is employed. Good food, fresh air, a carefully regulated routine, and a gently instilled education on " How to live " are the main factors in sanatorium treatment.

As mentioned in the Survey Report, all children are now Schick-tested, and, when positive, are immunised against diphtheria by inoculation.

Average duration of stay.—For the patients discharged during the year the average length of stay in the sanatorium was 34 weeks.

CHESHIRE JOINT SANATORIUM.

The Cheshire Joint Sanatorium was opened on the 6th November, 1923, for 50% of the approved bed accommodation.

The approved accommodation for Birkenhead cases (32 beds) is now available.

Patients dealt with.—At the beginning of the year 31 Birkenhead patients were under treatment. During the year 43 Birkenhead patients were admitted, 38 were discharged, and 5 died. 31 patients remained under treatment at the end of the year.

	Men	Women	Children (under 15)	Total
In Sanatorium January 1, 1930	15	16	—	31
Admitted during year	26	17	—	43
Discharged or left Sanatorium during year	21	17	—	38
Died in Sanatorium	3	2	—	5
In Sanatorium December 31, 1930	17	14	—	31

The following table shows the classification, length of stay, and result of treatment of the cases discharged during the year:—

Classification prior to entering Sanatorium *	Condition on discharge from Sanatorium	Duration of Stay in Sanatorium								Totals	
		Under 3 months		3 to 6 months		6 to 12 months		Over 1 year			
Group		M	F	M	F	M	F	M	F	M	F
T.B. minus	Quiescent	—	—	—	—	—	—	—	—	—	—
	Improved	—	—	—	1	1	3	—	1	1	5
	No material improvement	—	—	—	—	—	1	—	—	—	1
	Died	—	—	—	—	—	—	—	—	—	—
T.B. plus Group I.	Quiescent	—	—	—	—	—	—	—	—	—	—
	Improved	—	—	2	—	3	1	1	1	6	2
	No material improvement	—	—	—	—	—	—	—	—	—	—
	Died	—	—	—	—	—	—	—	—	—	—
T.B. plus Group II.	Quiescent	—	—	—	—	—	—	—	—	—	—
	Improved	2	1	2	1	6	2	2	3	12	7
	No material improvement	1	—	—	—	1	—	—	—	2	—
	Died	1	—	—	1	2	1	—	—	3	2
T.B. plus Group III.	Quiescent	—	—	—	—	—	—	—	—	—	—
	Improved	—	—	—	—	—	—	—	1	—	1
	No material improvement	—	1	—	—	—	—	—	—	—	1
	Died	—	—	—	—	—	—	—	—	—	—

*Explanation of group nomenclature: Patients suffering from pulmonary tuberculosis are divided into groups which may briefly be defined as follows:—

T.B. minus = cases in which tubercle bacilli have never been demonstrated in the sputum, etc.

T.B. plus, Group I = cases in which tubercle bacilli have at any time been demonstrated with slight constitutional disturbance and where the physical signs are of very limited extent.

T.B. plus, Group II = all cases which are neither slight nor advanced and which cannot be placed in Group I. or III.

T.B. plus, Group III = cases with profound systemic disturbance or constitutional deterioration, marked impairment of function, either local or general, and with little or no prospect of recovery.

It should be noted that a patient originally in Group T.B. minus must be transferred to Group T.B. plus at any stage in the course of treatment if and when tubercle bacilli are found, while on the other hand a patient who is once placed in Group T.B. plus can never be transferred to Group T.B. minus.

A full explanation of the Groups will be found in Memorandum 37 T issued by the Ministry of Health in September, 1925.

LEASOWE HOSPITAL.

The twelve beds reserved by the Corporation at Leasowe Hospital for cases of *surgical tuberculosis* among Birkenhead residents have been in occupation throughout the year.

There were 12 cases in hospital at the beginning of the year; 5 new cases have been admitted during the year, and 5 have been discharged or died; leaving 12 patients in hospital at the end of December.

The localisation of the disease in the 17 patients under treatment during the year was as follows:—

Tuberculosis of spine	7
,, hip	6
,, knee	3
,, bones	—
,, ankle	1
,, peritoneum	—
	17

The 5 cases discharged or died were as follows:—

Tuberculosis of spine .... 3 quiescent
,, hip .... 1 quiescent
,, knee .... 1 quiescent

5

TABLE T 1.

New cases notified for first time during the year.

Primary Notifications												
Age periods..........	0-1	1-5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65 and up	Total
Respiratory—Males	—	—	—	2	7	13	32	32	21	8	4	119
Females	1	1	—	3	10	23	19	17	8	1	1	84
Non-respiratory—Males......	1	8	6	—	3	1	6	1	1	1	2	30
Females...	1	8	7	5	4	4	3	1	2	1	—	36
Totals............	3	17	13	10	24	41	60	51	32	11	7	269

TABLE T 2.

Deaths from tuberculosis during the past fifteen years.

Year	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
Deaths from tuberculosis of the lungs—															
Number	177	172	167	146	116	154	141	109	136	123	122	155	150	164	141
Rate per 1000	1.24	1.18	1.13	0.97	0.76	1.04	0.94	0.72	0.88	0.79	0.77	0.98	0.95	1.04	0.89
A Males—															
Number	104	89	97	73	55	68	77	67	75	61	68	97	82	93	83
Rate	0.72	0.61	0.65	0.48	0.36	0.46	0.51	0.44	0.48	0.39	0.43	0.61	0.52	0.58	0.52
B Females—															
Number............	73	83	70	73	61	86	64	42	61	62	54	58	68	71	58
Rate	0.51	0.57	0.47	0.48	0.40	0.58	0.42	0.28	0.40	0.39	0.34	0.37	0.43	0.46	0.36
Deaths from other forms of tuberculosis—															
Number	61	69	66	38	56	40	50	43	51	35	39	45	43	39	29
Rate per 1000	0.42	0.46	0.44	0.25	0.36	0.27	0.32	0.28	0.33	0.22	0.24	0.28	0.27	0.24	0.18
A Males (all ages)															
Number	36	36	40	24	36	21	25	21	25	17	18	28	28	18	11
Rate	0.25	0.24	0.27	0.16	0.23	0.14	0.16	0.14	0.16	0.10	0.11	0.18	0.18	0.11	0.06
B Females (all ages)															
Number	25	33	26	14	20	19	25	22	26	18	21	17	15	21	18
Rate	0.17	0.22	0.17	0.09	0.13	0.13	0.16	0.14	0.17	0.11	0.13	0.10	0.09	0.13	0.11
C Children (un. 5 yrs)															
Number	44	44	36	22	26	17	21	20	26	22	24	22	21	19	8
Rate	0.30	0.30	0.24	0.14	0.17	0.11	0.15	0.13	0.17	0.13	0.15	0.13	0.13	0.12	0.05
Deaths from tuberculosis (all forms)—															
Number	238	241	233	184	172	194	191	152	187	158	161	200	193	203	170
Rate per 1000	1.66	1.66	1.58	1.23	1.13	1.31	1.28	1.00	1.21	1.15	1.02	1.26	1.22	1.29	1.07
Rate per 1000 England & Wales	1.62	1.80	1.92	1.26	1.13	1.12	1.12	1.00	1.06	1.03	0.96	0.97	0.93	0.96	0.89

TABLE T 3.

New cases and mortality during 1930.

Ages	*New Cases				Deaths			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
0	—	1	2	2	—	1	1	2
1	—	2	8	8	—	1	2	1
5	—	—	6	7	—	—	—	2
10	2	3	1	6	—	—	1	2
15	7	11	4	4	3	11	3	—
20	13	25	1	5	9	12	—	3
25	36	21	6	4	16	15	—	5
35	33	21	1	1	17	8	1	—
45	24	8	1	2	19	7	1	1
55	10	1	2	3	16	3	--	2
65 and upwards	4	1	3	—	3	—	2	—
Totals	129	94	35	42	83	58	11	18

* Includes all **primary** notifications and also all other **new** cases of tuberculosis which came to the knowledge of the Medical Officer of Health during the year.

VENEREAL DISEASES.

ADMINISTRATIVE ARRANGEMENTS.

The diagnosis and treatment of cases of venereal disease have been carried on at the Municipal Clinic at the Birkenhead General Hospital for the past thirteen years. In consequence of the building of a new out-patients' department and the provision of an X-Rays department at the Hospital, new premises became available during 1930 for the Venereal Diseases Clinic. These premises, which are in some ways superior to those previously in use, were taken over in September.

At this clinic, Dr. Foster, assisted by Dr. Woodeson, has dealt with the male patients, and Dr. Deacon, assisted by Dr. Williams, with the female patients.

The total number of attendances at the clinic this year showed an increase of 894.

Of the 480 new cases, 304 were residents of Birkenhead, 18 were from Wallasey, 14 from Cheshire County, 5 from Liverpool, and 100 from India and Burma.

At the special clinic for children, which was opened at 9 Hamilton Square, in 1926, Dr. Deacon has been in attendance during the year.

GENERAL NOTES.

Cases dealt with.—(a) General Hospital clinic. During the year 1,518 persons, comprising 1,044 males and 474 females, were dealt with at the clinic as out-patients. This is an increase of 120 over the figure for 1929.

The total attendances of out-patients was 11,162; the number of in-patient days was 244.

New patients numbered 372 males and 108 females; of these 176 were non-residents of Birkenhead. As is usual in seaports, sailors of many nationalities were treated at the clinic. Natives of Denmark, Belgium, Greece, America, India and Burma attended during the year.

(b) Hamilton Square clinic.—During the year 154 children (68 males and 86 females) were dealt with at the clinic as out-patients, the total attendances made being 1,104.

The new cases seen numbered 69, and were diagnosed as follows—

Syphilis (congenital in all cases)	36
Gonorrhœa	3
No venereal disease	30

Bacteriological work—(a) 324 smears were examined—246 at the clinic and 78 at the municipal laboratory—for the presence of gonococci; and 16 specimens for the detection of spirochœtes, and 8 specimens for the detection of other organisms were examined at the clinic.

(b) At the University of Liverpool, Professor Beattie examined 1,206 specimens, 511 of these being sent from the municipal clinic at the Birkenhead General Hospital, 90 from the Hamilton Square clinic, and 605 from private medical practitioners and hospitals in the area. Of the specimens sent, 1,198 were for the Wassermann reaction and 8 for the detection of gonococci.

The appointment during 1930 of a full time Bacteriologist on the staff of the Medical Officer's Department has been of great service to the Medical Officers at the Venereal Diseases Clinics. Examinations of prostatic and cervical smears entail detailed and prolonged microscopical examinations and tend, necessarily, to hold up the examination of patients, the giving of injections, and the carrying out of instrumental work. Since the appointment of Dr. Ritchie as Bacteriologist all specimens of the above type have been sent to the municipal laboratory and much time has been saved at the clinics. It is now possible to have carried out such tests as Lange's colloidal gold test on cerebro-spinal fluid on the same day the specimen is received.

Treatment of Birkenhead patients carried out at other treatment centres.—So far as has been ascertained from official returns which have been received from other areas, Birkenhead patients attended other treatment centres as shown in Table V 3.

Issue of arsenobenzene compounds.—Arsenobenzene compounds were issued during the year by the Medical Officer of Health
to the Medical Officers of the treatment centres at the General Hospital and at No. 9, Hamilton Square,
to the Medical Officer, Birkenhead Infirmary,
to four approved local practitioners.

TABLE V I.

Statement showing the services rendered at the Venereal Diseases Clinic at the Birkenhead General Hospital during the year, classified according to the diseases dealt with.

	Syphilis		Soft chancre		Gonorrhœa		Conditions other than venereal		Total	
1. Number of cases which—	M.	F.	M.	F.	M.	F.	M	F	M.	F.
(*a*) at the beginning of the year under report were under treatment or observation for	337	260	14	—	319	106	—	—	670	366
(*b*) had been marked off *in a previous year* as having ceased to attend or as transferred to other centres, and which returned to the treatment centre during the year under report *suffering from the* same infection ..	2	—	—	—	—	—	—	—	2	—
Total—Items 1 (*a*) and 1 (*b*) ...	339	260	14	—	319	106	—	—	672	366
2 (*a*) Number of cases dealt with at the treatment centre during the year *for the first time* with infections of......... 1. *less* than one year's standing...	50	6	10	1	132	20			192	27
							120	26	120	26
2. *more* than one year's standing...	40	45	—	—	20	10			60	55
Total—Items 1 (*a*), 1 (*b*) and 2 (*a*)	429	311	24	1	471	136	120	26	1044	474
2 (*b*) Number of cases *included* in item 2(*a*) known to have received *previous treatment at other centres* for the same infection	18	—	1	—	16	—	—	—	35	—
3. Number of persons who ceased to attend the out-patient clinic (*a*) before completing the first course of treatment for	8	5	—	—	22	4	—	—	30	9
(*b*) after one or more courses, but before completion of treatment for	11	31	—	—	—	—	—	—	11	31
(*c*) after completion of treatment, but before final tests as to cure, of	4	—	1	—	36	12	—	-	41	12
4. Number of persons transferred to other treatment centres after treatment for	74	1	9	—	54	—	—	—	137	1
5. Number of persons discharged from the out-patient clinic after completion of treatment & observation for	5	15	6	1	39	4	—	—	50	20
6. Number of persons who, on the 31st December, 1930, were under treatment or observation for	327	259	8	—	320	116	—	—	655	375
Total—Items 3, 4, 5 and 6	429	311	24	1	471	136	—	—	924	448
7. Out-patient attendances— (*a*) For individual attention by the Medical Officer	1282	1482	52	30	1877	393	340	41	3551	1946
(*b*) For intermediate treatment—*e.g.*, irrigations, dressings, &c. ...	—	13	14	8	5031	591	5	3	5050	615
Total attendances ..	1282	1495	66	38	6908	984	345	44	8601	2561
8. Aggregate number of "in-patient days" of treatment given to persons who were suffering from	77	13	21	27	58	48	—	—	156	88

9. Examinations of pathological material—	For detection of			For Wassermann reaction
	Spirochætes	Gonococci	Other organisms	
(*a*) Specimens which were examined at, and by the medical officer of, the treatment centre......	16	246	8	—
(*b*) Specimens from persons attending at the treatment centre, which were sent for examination to an approved laboratory	—	78	—	511

TABLE V 2.

Statement showing the services rendered at the Venereal Diseases Clinic at the Birkenhead General Hospital during the year, classified according to the areas in which the patients resided.

	Birkenhead	Wallasey	Cheshire	Liverpool	Caithnesshire	Belfast	London	Worcester	Wrexham	Flint	Ulster	Leeds	York	Bristol	Aberdeen	Manchester	India	Ceylon	Belgium	U.S.A.	Greece	Sweden	Invernesshire	Anglesey	Newcastle-on-T	Grangemouth	Australia	Lancashire	Coventry	Plymouth	Hull	Glasgow	Crewe	Cork	Ayrshire	Greenock	Renfrew	Denmark	Total
A. Number of persons from each area dealt with during the year, at or in connection with the out-patient clinic *for the first time*, and found to be suffering from—																																							
Syphilis	86	3	2	–	1	–	1	–	–	1	–	–	1	1	1	–	34	1	1	1	1	1	–	1	1	–	–	1	–	–	–	1	–	1	–	–	–	–	141
Soft chancre	3	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	4	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	11
Gonorrhœa	125	8	5	1	–	1	1	–	1	–	–	1	–	1	1	1	27	1	–	1	–	–	1	1	–	1	1	–	1	–	–	–	–	–	–	–	1	1	182
Conditions other than venereal	90	7	6	4	–	1	–	1	–	–	1	–	–	–	–	–	33	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	1	–	–	–	–	–	146
Total	304	18	14	5	1	2	2	1	1	2	1	1	1	2	2	1	98	2	3	2	1	1	1	2	3	1	1	1	1	–	–	1	1	1	–	–	1	1	480
B. Total number of attendances at the out-patient clinic of all patients residing in each area	9997	338	254	52	3	15	13	3	12	14	1	7	1	2	2	3	366	10	5	9	2	1	7	4	5	7	4	2	3	2	1	3	2	1	3	1	2	5	11162
C. Aggregate number of "in-patient days" of all patients residing in each area	108	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	126	–	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	244
D. Number of doses of arsenobenzene compounds given in the—																																							
1. Out-patient clinic	1819	50	31	1	3	2	1	–	–	7	–	–	–	1	1	–	103	2	3	2	–	–	–	–	1	–	–	3	–	–	1	–	–	1	–	–	–	–	2032
2. In-patient department to patients residing in each area	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	18

TABLE V 3.

Statement showing particulars of Birkenhead cases treated at Venereal Diseases Clinics in other areas.

Name of town	No. of patients	Disease	Attendances at out-patient clinic	No. of in-patient days	Doses of arsenobenzene compounds given in	
					Out-patient clinic	In-patient department
Liverpool .... (David Lewis Northern Hos.)	14	Syphilis ... . 7 Gonorrhœa .... 3 Conditions other than venereal 4	155	—	107	—
(Stanley Hos.)	5	Syphilis ....1 Gonorrhœa 4	466	--	15	—
(Royal Infirm.)	23	Syphilis .... 5 Gonorrhœa ....15 Conditions other than venereal 3	455	—	61	—
(Seamen's Dispensary)	28	Syphilis ....10 Soft chancre .... 1 Gonorrhœa 17	697	—	68	—
(Royal Southern Hospital)	3	Syphilis .... 1 Conditions other than venereal 2	93	74	3	—
Wallasey	1	Gonorrhœa 1	61	—	2	—

OTHER INFECTIOUS DISEASES.

INFECTIOUS DISEASES WHICH ARE NOTIFIABLE.

The infectious diseases which (in addition to tuberculosis already dealt with) were compulsorily notifiable to the Medical Officer of Health at any time during the past year are set out in Tables I 1 and I 2 below.

TABLE I 1.

Infectious diseases other than tuberculosis notified during 1930; showing seasonal incidence.

Disease	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Smallpox	—	—	—	—	—	—	—	—	4	—	—	—	4
Scarlatina	34	26	31	33	35	21	21	19	25	16	19	12	292
Diphtheria and membranous croup	14	18	25	13	21	20	24	10	14	27	37	33	256
Erysipelas	7	5	10	2	6	3	4	4	4	5	6	6	62
Typhus fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhoid fever	2	1	2	7	—	—	3	—	—	—	—	1	16
Continued fever............	—	—	—	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-spinal meningitis	2	—	—	—	—	—	—	—	—	—	—	—	2
Encephalitis lethargica (acute)..................	1	—	—	—	1	—	—	—	—	—	—	—	2
Polio-encephalitis (acute)	—	—	—	—	—	—	—	—	—	—	—	—	—
Poliomyelitis (acute)......	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia	1	5	4	6	2	—	1	6	—	2	3	2	32
Puerperal fever	—	1	—	1	—	—	—	—	—	—	—	1	3
Ophthalmia neonatorum	1	1	3	3	2	1	2	—	2	1	3	1	20
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—
Pneumonia..................	35	32	68	35	29	22	44	13	24	20	25	69	416
Malaria	—	—	1	—	1	1	—	1	—	—	—	1	5
Dysentery	—	—	—	—	—	—	—	—	—	—	2	—	2
Trench fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	97	89	144	100	97	68	99	53	73	71	95	126	1112

TABLE I 2.

Infectious diseases other than tuberculosis notified during 1930; showing ages.

Disease	und. 1 yr.	1–2 yrs.	2–3 yrs.	3–4 yrs.	4–5 yrs.	5–10 yrs.	10-15 yrs.	15-20 yrs.	20-35 yrs.	35-45 yrs.	45-65 yrs.	65 yrs. up	Total.
Smallpox	—	—	—	—	—	—	—	—	3	—	1	—	4
Scarlatina	4	6	16	19	19	128	39	24	29	6	2	—	292
Diphtheria and membranous croup	4	22	16	16	22	101	34	20	14	5	2	—	256
Erysipelas	—	2	—	2	1	1	1	4	13	6	24	8	62
Typhus fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhoid fever	—	1	—	1	—	6	—	1	3	—	4	—	16
Continued fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-spinal meningitis	1	—	—	—	—	—	1	—	—	—	—	—	2
Encephalitis lethargica (acute)	—	—	—	—	—	—	—	—	1	—	1	—	2
Polio-encephalitis (acute)	—	—	—	—	—	—	—	—	—	—	—	—	—
Poliomyelitis (acute)	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia	—	—	—	—	—	—	—	1	25	5	1	—	32
Puerperal fever	—	—	—	—	—	—	—	—	2	1	—	—	3
Ophthalmia neonatorum	20	—	—	—	—	—	—	—	—	—	—	—	20
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—
Pneumonia	50	34	26	15	15	34	26	25	61	41	60	29	416
Malaria	—	—	—	—	—	—	—	—	3	1	1	—	5
Dysentery	—	—	—	—	—	—	—	—	2	—	—	—	2
Trench fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	79	65	58	53	57	270	101	75	156	65	96	37	1112

Case-rates of certain diseases.—The case-rates of certain diseases for Birkenhead, and for England and Wales, per 1,000 living, are set out below:—

	Case-rate per 1,000 living.	
	Birkenhead	England and Wales
Smallpox	0.02	0.29
Scarlet fever	1.85	2.76
Diphtheria	1.62	1.84
Enteric fever	0.10	0.07
Puerperal pyrexia	0.20	0.14
Puerperal fever	0.02	0.06
Erysipelas	0.40	0.45

Encephalitis lethargica.—2 cases were notified during the year. Both cases were treated at home. 1 case (female, 25 years) recovered and 1 case (female, 52 years) died.

Cerebro-spinal fever.—2 cases were notified during the year. Both cases (male, 14 years and male, 8 months) died.

Smallpox.—There were 4 cases of smallpox notified in Birkenhead during the month of September. All the cases were removed to hospital and all recovered. In addition, 2 cases with suspicious symptoms were removed to hospital for observation. The following is a summary of the cases dealt with:—

1.—The first case, J.T., male, a postal worker, aged 51 years, was notified as a case of smallpox on 3rd September. This man had been vaccinated in infancy but not re-vaccinated. At the time of notification he had already been suffering from the disease for eight days, during which period he had been a possible source of infection to others.

2.—The second case, F.E.T., wife of the above man, developed smallpox on the 9th September. She had been vaccinated in infancy, and was re-vaccinated on the day on which the nature of her husband's disease became known; but as she had already been intimately exposed to infection for fourteen days there was little hope that this second vaccination would be efficacious in warding off an attack of the disease, although she developed a typical vaccinal pustule.

3.—The third case, T.G.T., male, aged 22 years, was a son of patient No. 1. He had been vaccinated in infancy, but had not been re-vaccinated. He developed the disease on 11th September.

4.—The fourth case, I.T.P., male, aged 20 years, resided in a house next door to that occupied by the first three patients. He was not known to have been in contact with them. He went away for a holiday five days after patient No. 1 was removed to hospital. Not feeling well he returned home eight days later (13 days after removal of patient No. 1 to hospital) and was seen by a doctor who immediately diagnosed the case as one of smallpox. Unlike the preceding cases this man had not been vaccinated in infancy; and while the first three patients had relatively mild attacks of the disease this man was seriously affected; indeed, at one time no hope was entertained of his recovery.

It was not found possible to trace definitely the source of infection of the first case; but a few weeks prior to his becoming ill, smallpox had occurred in the district in which he was employed, and it would, therefore, appear that the infection was probably contracted in that district.

All necessary precautions were taken to prevent the spread of the outbreak. Disinfection of the premises concerned, destruction of bedding and clothing, and the supervision of all contacts was carried out. Notifications were sent to all medical practitioners in the area, to Medical Officers of Health of adjoining areas, etc., of the occurrence of cases of smallpox in the area. The Vaccination Officers and Public Vaccinators were notified of each case and the Public Vaccinators duly visited and carried out vaccination of contacts with the cases.

Certain members of the staff who had been exposed to infection and others who were liable to be called on to carry out duties in connection with the outbreak were vaccinated by members of the medical staff of the Department.

Smallpox was present in epidemic form in many parts of England and Wales throughout the year; 11,855 cases being notified. The Registrar-General's returns show the prevalence and mortality to have been as set out below:—

Smallpox in England and Wales.

Year	Number of cases	Deaths
1924	3,792	13
1925	5,365	9
1926	10,205	19
1927	14,769	49
1928	12,433	53
1929	10,975	39
1930	11,855	28

DISINFECTION.

Books.—138 Public Library books were collected from infected houses and disinfected.

Dwellings.—564 house-disinfecting notices were served; 544 houses or parts of houses were disinfected during the year.

Bedding and clothes.—Infected bedding and clothes were collected from 585 dwellings and disinfected. In 38 further cases infected or discarded bedding and clothes were destroyed.

Visits and revisits paid to houses, etc., by the Infectious Diseases Inspector.—3,314 visits and revisits to property were made during the year in connection with disinfection after infectious diseases (including tuberculosis).

VACCINATION.

Public vaccination.—In connection with the coming into force of the provisions of the Local Government Act, 1929, the duties in connection with public vaccination heretofore carried out by the Board of Guardians were transferred to the Local Authority, who empowered the Health Committee to administer the Vaccination Acts within the Borough.

The County Borough of Birkenhead is subdivided into three districts for vaccination purposes, namely, " Birkenhead," " Tranmere," and " Birkenhead Infirmary and Institution."

" Birkenhead District " comprises Argyle, Grange and Cleveland Wards.

" Tranmere District " comprises Claughton, Oxton, Clifton, Egerton, Mersey, Bebington, Bidston, and Prenton Wards.

" Birkenhead Infirmary and Institution " comprises the whole of those institutions.

For these districts the following appointments were made:—

Public Vaccinators—

" Birkenhead District "—Dr. H. C. Pierce with Dr. R. W. L. Pearson as deputy.

" Tranmere District "—Dr. H. L. Pearson with Dr. R. W. L. Pearson as deputy.

" Birkenhead Infirmary and Institution "—Dr. G. J. French with Dr. F. C. Speechly as deputy.

Vaccination Officers—

" Birkenhead District "—Mr. O. R. Lockey.

" Tranmere District "—Mr. S. W. Swan.

Information relative to the number of persons successfully vaccinated and re-vaccinated at the cost of the rates by the Medical Officers of the Poor Law Institutions and the Public Vaccinators during the year ended 30th September, 1930, is given below:—

Name of District	Name of Medical Officer or Public Vaccinator	No. of successful primary vaccinations of persons :—			No. of successful re-vaccinations, *i.e.*, of persons who had been successfully vaccinated at some previous time
		Under 1 year of age	1 year and upwards	Total	
Birkenhead	Dr. H. C. Pierce	714	63	777	9
Tranmere	Dr. H. L. Pearson	424	26	450	31
Birkenhead Infirmary and Institution	Dr. G. J. French...	—	—	—	—
	Total ..	1 138	89	1,227	40

The following is the latest completed information relative to vaccination in the Borough and relates to children whose births were registered from 1st January to 31st December, *1929*, inclusive, viz.:—

	Birkenhead District	Tranmere District	Whole Borough
No. of births	1,755	1,241	2,996
Successfully vaccinated	1,029	770	1,799
Insusceptible	20	15	35
Had smallpox.......................	—	—	—
Number in respect of whom statutory declarations of conscientious objection have been received	398	343	741
Died unvaccinated	107	55	162
Postponements, removals, or cases not found, etc.......	201	58	259
Total No. of certificates of successful primary vaccination of children received during the calendar year **1930**	1,095	868	1,963
No. of statutory declarations of conscientious objection actually received by the Vaccination Officers irrespective of the dates of birth of the children to which they relate during the calendar year **1930**	404	308	712
No- of cases successfully vaccinated after the declaration of conscientious objection had been made	—	—	—
No. of copies of certificates of successful primary vaccination sent to Vaccination Officers of other districts during **1930**..	45	96	141

Public Health (Smallpox Prevention) Regulations, 1917.—In connection with the occurrence of cases of smallpox in the Borough during the year the Medical Officer of Health performed 6 primary vaccinations and 95 re-vaccinations.

ISSUE OF DIPHTHERIA ANTITOXIN.

During the year, in accordance with the provisions of the Diphtheria Antitoxin (outside London) Order, 1910, diphtheria antitoxin was issued to 18 medical practitioners ; a total of 296,000 units was given out.

IMMUNISATION AT CLINICS AGAINST DIPHTHERIA.

Since 1926 facilities have been offered to the mothers attending the infant welfare clinics to have their children immunised against diphtheria.

During the year ended 31st December, 1930, 118 children were presented at the various clinics for the first of a course of immunising injections. Of these, 59 completed the course before the end of the year, 21 had 2 injections and 38 had 1 injection. In addition, 10 children whose treatment was commenced in 1929 were given their final injections, making a total of 69 children completing the course in 1930. From the date of the commencement of the treatment in 1926 until the end of 1930, 379 children have received the full course of 3 or more injections.

Children who have received less than 3 injections cannot be said to have full opportunity of complete immunisation. Experience indicates that about 80% of cases who have had a full course will be immune, while the remaining 20% may require a further short course of treatment.

Details of treatment carried out in 1930 are set out below:—

Clinic	1 injection	2 injections	3 or more injections	Total	1929 cases completed	Total
Hamilton Square	25	14	44	83	9	92
North	—	1	2	3	—	3
St. Paul's Road	7	—	5	12	—	12
Mount Grove	6	6	8	20	1	21
Total	38	21	59	118	10	128

(Note.—For immunisation carried out at the Fever Hospital see page 118.)

HOME NURSING.

The arrangement made between the Corporation and the Birkenhead District Nursing Society, dating from 1st July, 1919, provides for the home nursing of cases of influenza and pneumonia. During the year 1930 the Society's nurses paid 1,074 visits in respect of 66 cases.

INFECTIOUS DISEASES HOSPITAL.

Cases treated during 1930.—At the beginning of the year there were 51 patients in the Infectious Diseases Hospital, Flaybrick Hill.

During the year 501 new cases were admitted; so that the cases under treatment in hospital at any time during 1930 numbered 552.

There were 469 discharges and 30 deaths during the year; leaving 53 patients in hospital on 31st December, 1930.

The diseases treated, together with the sex of the patients and particulars as to recoveries and deaths, are shown below.

TABLE I 3.

Patients sent in as suffering from		In hospital at beginning of year	Admitted during year	Died during year	Discharged cured during year	Remaining in hospital at end of year
Scarlet fever	M.	17	87	0	101	3
	F.	16	140	0	148	8
Diphtheria	M.	3	115	11	90	17
	F.	12	134	14	108	24
Enteric fever	M.	0	7	0	6	1
	F.	0	6	2	4	0
Cerebro spinal fever	M.	0	2	1	1	0
	F.	0	1	1	0	0
Other diseases	M.	2	7	1	8	0
	F.	1	2	0	3	0
Totals		51	501	30	469	53

Final diagnosis (all cases).—The final diagnosis arrived at in connection with the 499 patients who were discharged from, or died in, hospital during the year was as follows:—

Scarlet fever	230
Diphtheria	156
Tonsillitis	39
Rubella	15
Enteric	9
Measles	7
Vincent's angina	7
Acute laryngitis	6
Varicella	4
Laryngismus stridulus	4
Septic rash	3
Broncho-pneumonia	2
Laryngitis and varicella	1
Quinsy (double)	1
Tonsillitis and ovarian tumour	1
Septic adenitis	1
Gastric influenza	1
Bronchitis	1
Erythema	1
Cerebro-spinal fever	1
Septic meningitis	1
Tuberculous meningitis	1
Acute rheumatic fever	1
Pneumococcal peritonitis	1
Erysipelas	1
Accidental facial vaccination	1
Scabies	1
Not diagnosed	1
No disease	1
	499

Scarlet fever.—Of the patients who were discharged from, or died in, hospital during the year 249 had been sent in as suffering from scarlet fever. Of these 226 were found actually to be suffering from the disease. None of these cases died.

Complications.—The complications met with among the 226 completed cases were as follows:—

26	suffered from adenitis	11.5%
23	suffered from heart murmurs	10.2%
17	suffered from rhinitis	7.5%
16	suffered from otorrhœa	7.1%
8	suffered from abscess	3.5%
5	suffered from rheumatism	2.2%
4	suffered from secondary tonsillitis	1.8%
2	suffered from sinus infection	0.9%
1	suffered from hæmaturia	0.4%
1	suffered from bronchitis	0.4%
1	suffered from eczematous dermatitis	0.4%

Average stay in hospital.—The average length of stay in hospital of all cases notified as scarlet fever was 31.4 days. The usual period of isolation for uncomplicated cases was 28 days (calculated from the onset of the disease).

Type of disease.—This was exceedingly mild, with a similar percentage incidence of the various complications to that of the previous 5 years. There were no cases of a septic or toxic type, and no patients died of the disease.

The question arises as to whether a larger proportion of cases of scarlet fever should not be allowed to be treated at home. The accommodation thus liberated at the hospital might with advantage be used for cases of severe measles and whooping cough, with their high death rates, instead of for cases of mild scarlet fever.

Use of antiscarlatinal serum.—This has been used in nearly every case, as was done in previous years. It appears to lessen the severity of the disease, and also reduces the number of complications. This was statistically proved in 1928.

Diphtheria.—

Cases discharged or died, notified as diphtheria	223
Cases found to be suffering from diphtheria on admission	156
Cases found not to be suffering from diphtheria	67
Deaths from diphtheria	23
Case mortality rate approximately	14.74%

Of those found not to be suffering from diphtheria—

1 died of broncho-pneumonia.

1 died of tonsillitis and tumour of the ovary.

There were 23 deaths from diphtheria in the hospital during the year; 5 of these dying within 24 hours of admission.

Tracheotomy.—8 cases required the operation of tracheotomy for laryngeal obstruction, 3 of whom died, giving a death rate of 37.5%.

Average stay in hospital.—The average length of stay in hospital of all cases notified as diphtheria was 33.04 days.

Type of case.—Diphtheria has been more severe than in recent years, many rapidly advancing toxic cases having been admitted to hospital. Probably the unusual amount of wet weather and fogs, predisposing to colds and sore throats, has been in some measure responsible for this. The increased incidence of this disease has not been confined to Birkenhead, but has been experienced in many towns in the neighbourhood.

A thorough investigation was made during the year with a view to discovering some common factor at work in spreading the disease. There appeared to be no concentration of cases in any particular school or district. All the staff and scholars of selected schools were examined by medical members of the staff, and swabs from their throats and nasal passages examined bacteriologically.

A few carriers or latent cases were discovered in this way, and appropriate measures taken. Many families who had been in contact with cases were given serum at the hospital and later were immunised. As has been mentioned previously the immunisation of a small section of the community, while conferring complete protection to the individuals concerned, cannot be expected materially to influence an epidemic involving the community at large. The two preventive measures taken, namely, the swabbing of contacts and the injection of serum into the more intimate contacts, would, therefore, appear to be the most important to employ during an outbreak such as that under consideration.

Complications.—The complications met with among the 156 completed cases of diphtheria were as follows:—

Paralysis or paresis		
Cardiac, palatal, and diaphragmatic (1), cardiac, palatal, and legs (1), cardiac and legs (1), cardiac and diaphragmatic (1), cardiac, palatal, and ocular (1), palatal, ocular, and legs (1), palatal and legs (1), palatal (5), and cardiac (11)	23	14.7%
Heart affections		
Systolic murmur (6), bradycardia (3), tachycardia (2)	11	7.0%
Adenitis	7	4.4%
Rhinorrhœa	6	3.9%
Albuminuria	5	3.2%
Pneumonia	5	3.2%
Otorrhœa	3	2.0%
Secondary tonsillitis	3	2.0%
Pleurisy (1) and peritonsillar abscess (1)	2	1.3%
Carriers (of non-virulent bacilli)	2	1.3%
	67	43%

Importance of early diagnosis.—The importance of early diagnosis and early application of appropriate treatment in cases of diphtheria is again demonstrated by an analysis of the records for the year.

Thus the percentage of cases developing complications, tabulated according to the day of disease on admission, is as follows:—

1st day of disease	11.0% complications
2nd day of disease	21.4% complications

3rd day of disease ....17.6% complications
4th day of disease ....21.4% complications
5th day of disease ....29.1% complications
6th day of disease ....33.3% complications
7th day of disease ....66.6% complications
8th day of disease ....37.5% complications
After 8th day of disease ....50.0% complications

In every case of " sore throat " in children medical advice should be obtained at once. It should be remembered that in diphtheria the symptoms are often much less severe at the onset than in a case of ordinary tonsillitis.

Case mortality.—This has gone up considerably in spite of the greatly increased use of serum. This is to be attributed to the increase in virulence of the infection which nearly always accompanies an epidemic outbreak.

Immunisation.—The immunisation of members of the staff and patients suffering from diseases other than diphtheria has been continued. In addition, other children (*e.g.*, the brothers or sisters of patients) have been immunised at the request of parents. The following table shows the work done at the hospital during the year 1930 as regards testing for susceptibility (Schick testing) and immunisation of those shown to be susceptible. This work is also carried on at the school and child welfare clinics, and some of the cases shown below as incomplete cases have been completed at these clinics.

		Tested	Positive	Negative	Pseudo		Immunisation		
					+	-	Completed	Partly	In Progress
Staff		9	5	1	—	3	2	—	3
Patients and others	Over 15......	27	4	22	1	—	2	—	—
	15 & under.	187	38	148	—	1	29	7	9
Totals		223	47	171	1	4	33	7	12
Re-Schicked ..		12	1	11	—	—	—	—	—

It will be seen that of 52 patients and others giving a positive test (*i.e.*, susceptible to diphtheria at any time)—

33 (63%) received a full immunising course
7 (14%) received part of an immunising course
12 (23%) were being immunised at the end of the year

It may be asked, why has the adoption of inoculation against diphtheria in clinics not prevented the occurrence of the outbreak which took place during the year?

Although many hundreds of children have had these inoculations, they represent in reality a very small percentage of the total children in the Borough and, therefore, would not prevent a widespread epidemic. As yet we have had no case to our knowledge of a child developing diphtheria after having had the full course of inoculation, so that inoculated children have apparently been completely protected.

Use of high potency serum.—Specially prepared "high potency serum" for intravenous injection was used in connection with 15 patients, of whom 7 recovered and 8 died. There were no ill-effects attributable to the use of the serum and there is little doubt that certain severe cases were saved by the use of it.

Other diseases—

Enteric fever.—13 cases were sent in as enteric fever. 1 proved to be enteric, 8 proved to be paratyphoid B, and 4 were not typhoid. Of the 4 cases that proved to be not typhoid, 1 died from acute rheumatic fever, 1 died from pneumococcal peritonitis, 1 was discharged cured, and 1 remained in hospital at the end of the year.

Cerebro-spinal fever.—3 cases were sent in as cerebro-spinal fever. Of these 1 proved to be suffering from the disease and died, 1 proved to be tuberculous meningitis and died, and 1 proved to be septic meningitis and was transferred to a general hospital.

Erysipelas.—1 case was admitted and was discharged cured.

Chickenpox.—4 cases were sent in as chickenpox. 1 case died from acute enteritis.

Anthrax.—1 patient sent in as suffering from anthrax proved to be a case of accidental facial vaccination. The patient had inoculated herself on the face from her baby's vaccination pustule.

Measles.—1 case was admitted and was discharged cured.

Rubella.—2 cases were admitted and were discharged cured.

Staff.—Throughout the year Dr. Woodeson acted as resident assistant medical officer at the Hospital.

On the 31st March Miss Yeomans retired, under the provisions of the Corporation's Superannuation Scheme, from her post as Matron.

Miss Yeomans had occupied the position of Matron for 38½ years, having taken up that post on 30th November, 1891. At that time the hospital had accommodation for 23 patients, as compared with 88 at the present time. It may be of interest to state that during the period 1st January, 1892, until 31st December, 1929, the number of individual cases treated in the hospital and coming under Miss Yeomans' care numbered over 13,000.

As a token of the esteem in which Miss Yeomans was held, a number of presentations were made to her. Expressions of high appreciation of her work and tributes to the zeal with which she had always carried out her duties were made by members of the Council and others.

The Council appointed as Matron, to succeed Miss Yeomans, Miss L. Liggins, who had acted as Deputy Matron for the past 12 years. Miss Liggins took up duty on 1st April, 1930.

New ward pavilion.—During the year the erection of a new ward pavilion with accommodation for 30 patients was begun; when this is completed the total beds available for patients at the hospital will number 118.

Training of nurses.—Courses of instruction for the examinations of the General Nursing Council have been continued.

Infectious illness among the staff.—There have been no cases of infectious illness among the staff during the year. No probationer nurse is allowed to commence duty in the wards allocated for cases of diphtheria until she is either proved Schick-negative (non-susceptible) or until she has been given a complete immunising course of injections with a final negative Schick-test.

E. P. Smith memorial fund.—No case received assistance from this fund during the year.

MUNICIPAL LABORATORY.

ADMINISTRATIVE ARRANGEMENTS.

Upon the resignation of Dr. Leete, who for some years carried out bacteriological work at the Municipal Laboratory, a revision of the duties of the Assistant Medical Officers was made.

In view of the coming into force on the 1st April 1930 of the Local Government Act 1929 and in accordance with the recommendations contained therein that there should be close co-operation between the hospitals administered by the Corporation and the voluntary hospitals in the area, it was felt by the Health Committee the time had come for the Council to have on its staff a specially-trained officer appointed primarily for laboratory work.

The Council approved the recommendation of the Health Committee that a bacteriologist should be appointed, and on the 1st October, 1930, Dr. J. Morrison Ritchie took up duties as Assistant Medical Officer and Bacteriologist in the department.

The Council also approved of the recommendation of the Health Committee that a laboratory assistant should be appointed and it is hoped that this appointment will be made in 1931.

The staff will then consist of Dr. Ritchie as Bacteriologist, a laboratory assistant and a junior.

Additional up-to-date equipment has been obtained and installed in the laboratory.

The work carried out at the Municipal Laboratory comes under three main headings:—

(A) work carried out in direct conjunction with other sections of the Medical Officer's Department.
(B) work carried out for the Birkenhead Infirmary.
(C) work carried out for the medical practitioners in Birkenhead.

The work carried out under "A" will include investigations in connection with venereal diseases, diphtheria, enteric fever, tuberculosis, etc.; milk supply; water supply; and food poisoning epidemics.

The work carried out under " C " will include general bacteriological and clinical investigations, blood chemistry, etc.

The work carried out for the Birkenhead Infirmary will consist of general bacteriological, pathological, and bio-chemical investigations; consultations with the clinical staff of the hospital; ward visits; lectures to nursing staff; maintenance of a museum; etc.

It will be seen, therefore, that the field to be covered is a large one, and that the work involved is of the highest importance.

EXAMINATIONS CARRIED OUT AT LABORATORY.

Examination of clinical material.—The nature and number of the examinations of clinical material made at the Municipal Laboratory during 1930 are shown in the following table:—

Examination	Pos.	Neg.	Total
Sputum for B. tuberculosis	135	347	482
Cultures for B. diphtheriæ	369	1145	1514
Blood tests (Widal) against enteric group	17	15	32
	521	1507	2028

Other examinations were made as follows:—

Fæces for B. Typhosus	38
Smears, G.C.	84
Urine	37
Miscellaneous	45
	204

Bacteriological examinations of water.—Examinations of the Alwen water supply were carried out at the laboratory during the year, on the lines indicated in my annual report for 1924. In all, 87 complete bacteriological examinations were made, samples being taken from the mains, and from the Alwen reservoir before and immediately after filtration.

The results obtained have again been very satisfactory and indicate that the water supply maintains its high level of bacteriological purity.

Bacteriological examination of milk.—(A) *The testing of graded milks.*—During the year the regular bacteriological examination of milk was carried out. 192 samples were examined. The work is undertaken primarily because of the introduction into the Borough of " designated milks " as laid down in the Milk (Special Designations) Order, 1923. These milks are:—

(1) Certified milk.
(2) Grade A (tuberculin tested) milk.
(3) Grade A milk.
(4) Pasteurised milk.

The bacteriological examinations consist of:—

(a) The enumeration of the micro-organisms present per cubic centimetre.
(b) Examination for the presence of B. coli in specified quantities of milk.

The examination of certified milk is carried out at the request of, and for, the Ministry of Health, who grant licences for the production of this milk.

The Grade A milks are examined for the Corporation, who grant the licences for the retailing of this class of milk.

In addition to the designated milks, other samples of milk have been examined from time to time, but no routine examination is carried out on ordinary milk, for which no standard of bacteriological purity has been laid down.

The results obtained are set out on pages 86 to 88 of this report.

(B) *The examination of milk for tubercle bacilli.*—The procedure followed in connection with the examination of milk for tubercle bacilli was explained in my 1927 report. During 1930 99 samples, all of ordinary milk, were examined for tubercle bacilli. Details and the results of these examinations will be found under the Water Supply, Food and Drugs section of this report (page 89).

GENERAL.

Clinical cases dealt with at laboratory.—Although the major portion of laboratory usefulness still lies in the sphere of diagnosis and preventive medicine, work on the treatment side is also carried out. An interesting case dealt with in this connection at the laboratory may serve as an instance.

A patient (M. McK.)—a woman employed as a cleaner—had suffered for a period of three months from a persistent inflammation of the skin of her hands and arms. She had been under treatment by several doctors, and had attended a special hospital for skin diseases; but the condition went from bad to worse until, when first seen at the Laboratory, her hands and arms were a mass of red flesh, and she was quite unfit for work. She was becoming more and more depressed at the prospect of being totally incapacitated and losing her means of livelihood.

The position at first sight appeared a difficult one, but cultures were made and a vaccine prepared. The result was highly satisfactory. As soon as the first dose took effect, the condition began to improve, and gradually the skin of her arms and hands returned to normal. She is now able to carry out her usual work and, despite the fact that her hands and arms are constantly in water, owing to the nature of her occupation, there has been no recurrence of the condition.

Laboratory accommodation.—As stated in my report for 1929 the present accommodation of the Laboratory consists of two rooms at No. 6, Duncan Street, Birkenhead (above the Tuberculosis Clinic), and is quite inadequate. The question of larger and more suitable premises is now under consideration, and it is hoped that new accommodation will be provided at an early date.

MENTAL DEFICIENCY.

ADMINISTRATIVE ARRANGEMENTS.

Cases of mental deficiency fall into two categories—

(a) Those which can be dealt with under the Mental Deficiency Acts, 1913 and 1927; for these the Mental Deficiency Acts Committee is responsible.

(b) Those which can be dealt with under the Education Act, 1921; for these the Education Committee is responsible.

CASES COMING WITHIN THE PROVISIONS OF THE MENTAL DEFICIENCY ACTS, 1913 and 1927.

The following classes of persons who are mentally defective are deemed to be defectives within the meaning of the Mental Deficiency Acts, 1913 and 1927*:—

(a) Idiots; that is to say, persons in whose case there exists mental defectiveness of such a degree that they are unable to guard themselves against common physical dangers;

(b) Imbeciles; that is to say, persons in whose case there exists mental defectiveness which, though not amounting to idiocy, is yet so pronounced that they are incapable of managing themselves or their affairs, *or, in the case of children, of being taught to do so*;

(c) Feeble-minded persons; that is to say, persons in whose case there exists mental defectiveness which, though not amounting to imbecility, is yet so pronounced that they require care, supervision and control for their own protection or for the protection of others, *or, in the case of children, that they appear to be permanently incapable of receiving proper benefit from the instruction in ordinary schools*;

(d) Moral imbeciles; that is to say, persons in whose case there exists mental defectiveness coupled with strongly vicious or criminal propensities and who require care, supervision and control for the protection of others.

Note.—The definition " mental defectiveness " means a condition of arrested or incomplete development of mind *existing before the age of eighteen years*, whether arising from inherent causes or induced by disease or injury.

It will be seen from the above definitions that certain special provisions are made with regard to children. Briefly, the effect of these is that a mentally defective child remains under the care of the Local Education Authority if he can be taught in one of the schools provided by that authority—the term " ordinary " in paragraph (c) being taken to include " special " schools for mentally defective children.

The Local Education Authority must, however, give notice to the Local Mental Deficiency Authority in the case of all children over the age of seven

(a) who have been ascertained to be incapable by reason of mental defect of receiving benefit or further benefit in special schools or classes, or who cannot be instructed in a special school or class without detriment to the interests of the other children, or as respects whom the Board of Education certify that there are special circumstances which render it desirable that they should be dealt with under this Act by way of supervision or guardianship;

---

*The revised definitions are those given in the Mental Deficiency Act, 1927.

(b) who on or before attaining the age of sixteen are about to be withdrawn or discharged from a special school or class, and in whose case the local education authority are of opinion that it would be to their benefit that they should be sent to an institution or placed under guardianship.

The Special School for mentally defective children provided by the Local Education Authority is referred to in another section of this report (page 162). An After-Care Committee carries out general supervision in connection with children on leaving this school; the number of cases being dealt with at the end of 1930 was 210 (143 boys and 67 girls).

During the past year 8 new cases came under the care of the Mental Deficiency Acts Committee.

2 cases were sent to institutions by judicial orders.

1 case was placed under guardianship by judicial orders.

2 cases were placed under supervision pending institutional vacancies arising; 5 cases were placed under home supervision; 1 case died during the year; 2 cases were discharged from institutions; 2 cases left the district.

9 first visits and 201 revisits were paid to the homes of mental defectives by the Health Nurses.

At the end of 1930 there were under the care of the Mental Deficiency Acts Committee 390 cases, as set out in the following table:—

In institutions (placed by the Mental Deficiency Acts Committee under judicial orders)—

	Males	Females	Total
Ashton House (Birkenhead)	0	1	1
Birkenhead Institution	8	6	14
Chester Institution	0	3	3
Royal Albert Institution (Lancaster)	7	2	9
Sandlebridge Colony (Cheshire)	1	3	4
Stoke Park Colony (Bristol)	2	3	5
Newtown Institution (Caerwys)	1	0	1
Royal Hostel (Surrey)	1	0	1
Whittington Hall (Chesterfield)	0	1	1
	20	19	39

In institutions (placed by the Birkenhead Public Assistance Committee, or by parents; not under judicial order)—

	Males	Females	Total
Birkenhead Institution	5	3	8
Royal Albert Institution (Lancaster)	7	1	8
	12	4	16

	Males	Females	Total
In Rampton State Institution (placed by Board of Control—cases which have become too violent for retention in ordinary institutions)	2	3	5

	Males	Females	Total
Under home supervision—			
(*a*) Cases discharged from institutions	2	6	8
(*b*) Cases which should be in institutions	24	9	33
(*c*) Others (including ex-Special School cases, 210 in number)	175	111	286
Under Guardianship	2	1	3
	203	127	330
Total	237	153	390

Scarcity of institutional accommodation.—It will be seen that in the above table 33 cases at present under home supervision are classed as cases which should be in institutions. Adding to these the 16 cases which are in institutions but are not under order, and for which provision should be made by the Local Mental Deficiency Authority, there is a total of 49 cases, as at the end of 1930, for whom institutional accommodation should be provided.

The difficulties which have been experienced in endeavouring to discover accommodation for these cases, and the urgent need for the provision of adequate local accommodation, were fully discussed in my annual report for 1925.

The Cheshire Joint Board for the Mentally Defective, the constituent authorities of which are the Administrative County of Chester, and the County Borough Councils of Birkenhead, Chester and Wallasey, have acquired an estate at Cranage Hall, near Holmes Chapel, Cheshire, for the purpose of providing a joint institution for mentally defective persons in their areas. Plans have been prepared for the lay-out of the proposed colony and it is hoped that the erection of the institution will be put in hand at an early date.

CASES DEALT WITH UNDER THE EDUCATION ACT, 1921.

The cases of mental deficiency in children which come under the care of the Local Education Authority are children over the age of 7 and under the age of 16 who, not being imbecile, and not being merely dull or backward, are defective; that is to say, children who by reason of mental defect are incapable of receiving proper benefit from the instruction in the ordinary public elementary schools, *but are not incapable by reason of that defect of receiving benefit from instruction in such special classes or schools as may be provided by the Local Education Authority for mentally defective children.*

CASES COMING WITHIN THE PROVISIONS OF THE BLIND PERSONS ACT, 1920.

The following classes of persons are included in the category of mental defectives by the Ministry of Health for the purposes of the Blind Persons Act, 1920:—

Blind persons suffering from epilepsy, fits or nervous disability.

WELFARE OF THE BLIND.

ADMINISTRATIVE ARRANGEMENTS.

An amended scheme was prepared during 1928 by the Health Committee, and after being passed by the Town Council on 4th July, 1928, received the approval of the Ministry of Health.

The scheme, which came into operation on the 1st September, 1928, provides that the Health Committee shall be the responsible Authority for the administration of Section 2 of the Blind Persons Act, comprehending within its sphere of activities all aspects of the work, economic, medical, social, financial and educational (without prejudice to the powers retained to the Education Committee under Sub-Section 6 of Section 2 of the Blind Persons Act).

Full details of this scheme were given in my annual report for 1928.

GENERAL FACTS REGARDING BLIND PERSONS IN BIRKENHEAD.

Number and ages of blind persons.—The total number of blind persons in Birkenhead coming within the scope of the Blind Persons Act, 1920, on 31st December, 1930, was 311; of these 174 were males and 137 females.

Age.	M.	F.	Total.
0— 5	—	—	—
5—16	7	2	9
16—21	11	2	13
21—30	6	8	14
30—40	11	9	20
40—50	26	14	40
50—60	21	15	36
60—70	45	40	85
Over70	47	47	94
Total	174	137	311

Blind persons who are otherwise defective.—Seventy-three of the blind persons on the register were handicapped in addition by other physical or mental defects:—

	M.	F.	Total.
Mentally defective	8	3	11
Deaf	17	8	25
Deaf and dumb	1	1	2
Otherwise physically defective	15	20	35
	41	32	73

Children under 16 years of age.—These numbered 7; 4 boys and 3 girls. 3 boys and 3 girls were attending school; 1 boy was not attending school.

Conditions as regards employment.—The following table shows the position of blind persons in the area over the age of 16 with reference to employment:—

	M.	F.	Total.
Employed	18	4	22
Trained but unemployed	9	10	19
Under training	4	1	5
Awaiting admission to Training School	1	—	1
Not trained, but probably trainable	3	1	4
Probably unemployable	132	119	251
	167	135	302

The occupations of the employed blind in the area were as follows:—

Agents, collectors, etc.	2
Basket and cane workers	5
Brush makers	5
Mat makers	1
Home teachers	1
Knitters	1
Newsvendors	1
Tuners	2
Miscellaneous	4
Total	22

Home visiting of blind persons.—The Health Nurses paid 63 first visits and 476 revisits to blind persons in the area.

Financial assistance to blind persons.—At the end of the year 219 blind persons (120 males and 99 females) were in receipt of financial assistance under the scheme of the Council for the Welfare of the Blind.

EYE DISEASE OR INJURY.

Patients suffering from diseases of, or injuries to, the eyes, are seen at the St. Paul's Eye Hospital, Liverpool, or the Birkenhead General Hospital. No fixed arrangement for the payment of cost of cases in respect of which the Corporation accepts liability is in existence.

Power to make arrangements for provision of such treatment is afforded by section 66 (1) of the Public Health Act, 1925 : " Without prejudice and in addition to any other power under any other Act, a county council or local authority shall have power, with the consent of the Minister of Health, to make such arrangements as they may think desirable for assisting in the prevention of blindness, and in particular for the treatment of persons ordinarily resident within their area suffering from any disease of or injury to the eyes."

HOUSING AND GENERAL SANITATION.

ADMINISTRATIVE ARRANGEMENTS.

The staff engaged on the work of housing and general sanitary inspection consisted, at the end of the year, of the Chief Inspector, one housing inspector, and eight sanitary inspectors.

The eight sanitary inspectors are required to devote approximately half their time to the work of housing inspection.

GENERAL.

Area of the Borough.—The area of the Borough (land and inland water) was at the time of the 1921 census 3,924 statute acres. This area is largely built over, or otherwise occupied, by domestic buildings, docks, factories, railway stations, and sidings, etc. The area of the extended borough (as from 1st April, 1928) is 6,016 acres.

Number of dwelling houses in the Borough.—The approximate number of dwelling houses of all descriptions within the Borough, excluding institutions, on 31st December, 1930, was 31,287.

New dwellings erected, 1921-1930.—The new dwellings erected in the Borough between the date of the census and the end of 1930 were as follows:—

(1) Between the date of the census and 31st December, 1929		
(*a*) With State assistance under the Housing Acts, 1919-1925		
(i) By the Local Authority	1780	
(ii) By other bodies or persons	609	
(*b*) Other	618	
		3007
(2) During 1930		
(*a*) With State assistance under the Housing Acts, 1919 or 1925		
(i) By the Local Authority	128	
(ii) By other bodies or persons	0	
(*b*) Other	67	
		195
Total		3202

In addition to the above, 7 houses were converted into 19 flats, making a further nett gain of 12 houses.

No houses were erected during the year which did not comply with the building byelaws.

Uninhabited property.—The following is a return of uninhabited property in Birkenhead for the past year:—

Districts	Half-year ended 30th June, 1930					Half-year ended 31st Dec., 1930				
	Private houses	Shops	Cottages	Dock cottag's	Total	Private houses	Shops	Cottages	Dock cottag's	Total
Birkenhead ……	21	30	—	—	51	22	20	—	—	42
Claughton and Oxton ………	92	9	3	49	153	103	8	4	—	115
Tranmere, Rock Ferry, and added Areas	168	18	9	—	195	130	22	—	—	152
Total ..	281	57	12	49	399	255	50	4	—	309

The total uninhabited and unoccupied property, 31st December, 1929, was 303, so that there was an increase of 6 at the end of 1930 as compared with the previous year.

ADMINISTRATIVE ACTION TAKEN IN CONNECTION WITH HOUSING AND GENERAL SANITATION.

(*a*) Mainly under Housing Acts.

During the twelve months ending December 31st, 1930, the following work was carried out by the department under the provisions of the Housing Acts and Regulations (the arrangement is based on that suggested by the Ministry of Health):—

Inspection.

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts); all these houses were also recorded under the Housing (Inspection of District) Regulations, 1910, or the Housing (Consolidated) Regulations, 1925 ……………………………… 1078

(2) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation ……………………………………………… 153

(3) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation …… 844

Remedy of defects without service of formal notices.

Number of defective dwelling-houses rendered fit in consequence of *informal* action by the local authority or their officers ……………………………………………… 6

Action under statutory powers.

A. *Proceedings under Section 3 of the Housing Act, 1925.*

(1) Number of dwelling-houses in respect of which notices were served requiring repairs …………………… 838

(2) Number of dwelling-houses which were rendered fit after service of formal notices—	
(*a*) by owners	
(1) Houses in respect of which notices were served during 1930	357
(2) Houses in respect of which notices were served prior to 1st January, 1930	596
(*b*) by local authority in default of owners	—
Total	953
(3) Number of dwelling-houses in respect of which closing orders became operative in pursuance of declarations by owner of intention to close	—

B. *Proceedings also taken under the Public Health Acts in connection with above properties.*

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	392
(2) Number of dwelling-houses in which defects were remedied after service of formal notices—	
(*a*) by owners	389
(*b*) by local authority in default of owners	1

C. *Proceedings under sections 11, 14 and 15 of the Housing Act, 1925.*

(1) Number of representations made with a view to the making of closing orders	153
(2) Number of dwelling-houses in respect of which closing orders were made	52
(3) Number of dwelling-houses in respect of which closing orders were determined, the dwelling-houses having been rendered fit	11
(4) Number of dwelling-houses in respect of which demolition orders were made	—
(5) Number of dwelling-houses demolished in pursuance of demolition orders	—
(6) Number of dwelling-houses demolished after the making of closing orders, but without service of demolition orders	21

(*b*) Mainly under Public Health Acts.

In addition to the housing work outlined above, other work, of which the following is a summary, was carried out by the inspectors during the year. (The work of scavenging, removal of refuse, and care of sewers is entirely dealt with by the Borough Engineer and Surveyor's department.)

Number of houses inspected (not included in preceding section)	9951
Number of re-inspections of houses	56869
Number of unhealthy conditions reported and investigated	6423
Number of formal notices given	1551

Number of informal notices given	3970
Number remedied after formal notice and without proceedings	1550
Number of cases in which proceedings had to be taken	1
Number abated after proceedings	1
Defects referred for action:—	
(*a*) to Borough Engineer and Surveyor	241
(*b*) to Water Engineer	202
(*c*) to Borough Treasurer	175
Number of excavations made for the purpose of testing the condition of house drains	181
Number of smoke tests applied to drains of premises reconstructed under the supervision of this department	266
Number of water tests applied to drains	31
Number of smoke tests applied to the drains of new buildings, in conjunction with the Borough Engineer and Surveyor's department	177
Number of smoke observations taken	41
Number of smoke nuisances from factory and other chimneys reported to the Health Committee	—
Number of schools specially examined by the sanitary inspectors	40
Number of cowsheds inspected	45
Number of inspections of dairies and milkshops	962
Number of inspections *re* offensive trades	296
Number of sewer ventilators inspected	28
Number of street gullies inspected	51
Number of caravans inspected	126
Number of caravans re-inspected	182
Number of back passages inspected	115
Number of investigations regarding the keeping of pigs, fowls, and other animals	194
Miscellaneous inspections (not included above)	440

(*c*) Actual defects in domestic dwellings dealt with under (*a*) and (*b*) above.

The following is a summary of sanitary improvements effected at dwelling houses during the year under the provisions of the Public Health and Housing Acts:—

Houses—

Roofs repaired	1348
Chimney stacks pointed or repaired	298
Rainwater gutters repaired or renewed	579
Down spouts repaired or renewed	349
Down spouts disconnected from drains	28
Walls pointed or repaired	1775
Lighting improved	10
Ventilation improved	100
Windows repaired	399
New sash cords provided	1700
Window fasteners renewed	534
Windows made to open	207
Firegrates repaired	627
Ovens repaired or renewed	202
Plastering to firegrates repaired	478
Hearthstones repaired or renewed	149
Floors relaid or repaired	1105
Skirting boards repaired or renewed	152
Wall plaster repaired	1934
Ceiling plaster repaired	875

Walls cleansed	522
Ceilings cleansed	386
Doors repaired	580
Door fasteners repaired or renewed	1132
Sinks repaired or renewed	133
Sink waste pipes repaired	259
Sink waste pipes trapped	19
Washing boilers repaired	288
Washing boilers—new pans provided	51
Washing boilers—firegrates repaired	183
Washing boilers—flues repaired	61
Dampness remedied	124
Nuisances from animals abated	24
Yard surfaces relaid or repaired	745
Yard surfaces—proper means of drainage provided	3
Sufficient water supply provided	131

Drainage—

New drains constructed	26
Old drains reconstructed	97
Drains repaired	176
Drains disconnected from sewer	6
Drains—inspection chambers provided	2
Drains ventilated	8
Drains cleansed	899
Self-cleansing gullies provided	45

Water closets—

Roofs repaired	391
Walls repaired	442
New basins fixed	174
Connections repaired	571
Cisterns repaired or renewed	334
New flush pipes fixed	12
Provided with a sufficient supply of water	439
Doors repaired or renewed	281
Seats repaired or renewed	56

Ashpits—

Provided with roofs	6
Provided with doors	14
Roofs repaired	24
Walls repaired	22
Cemented inside	19
Abolished	438
Ashbins provided	1509

Miscellaneous—

(not included above)	2089

(*d*) Increase of Rent and Mortgage Interest (Restriction) Acts, 1920-1923.

During the year no applications for certificates under section 2 of the Act were received.

(*e*) Theatres, music halls, &c.

(Ministry of Health Circular No. 120, dated 25th August, 1920).

46 visits were made to theatres, music halls and other places of entertainment, with a view to ascertaining whether conditions as to ventilation, structure of dressing rooms, &c., were satisfactory.

(*f*) Rats and mice.

The following is a summary of the work carried out by the district inspectors under the provisions of the Rats and Mice (Destruction) Act, 1919:—

No. of premises inspected	193
No. of visits and re-visits	304
No. of notices served on occupiers	135
No. of notices served on owners	93
No. of premises satisfactorily dealt with	121
No. of premises still under observation or where work is being carried out	14

(*g*) Inspection of lodging houses, &c.

During the year the inspector of common lodging houses, &c. paid regular visits to common lodging houses, and houses let in lodgings, and to the Corporation tenement dwellings.

Registered common lodging houses (12 in number)	
Day inspections	3345
Night inspections	120
Insanitary conditions reported and dealt with	32
Houses let in lodgings (333 in number):	
Day inspections	2395
Night inspections	—
Insanitary conditions reported and dealt with	254
Corporation tenement dwellings (132 in number):	
No. of visits	3703
Insanitary conditions reported and dealt with	170

FACTORIES, WORKSHOPS AND WORKPLACES.

FACTORY AND WORKSHOP ACTS, 1901 AND 1907.

The Factory and Workshop Act, 1901 (s. 132), requires the Medical Officer of Health in his annual report to the Council to report specifically on the administration of that Act in workshops and workplaces. The following is a summary of the work carried out during the year.

1.—Inspection of factories, workshops and workplaces.

Premises	No. of		
	Inspections	Written notices	Prosecutions
Factories (including Factory Laundries)	—	—	—
Workshops (including Workshop Laundries) ...	1322	110	—
Workplaces (other than Outworkers' premises)...	5	1	—
Total.........	1327	111	—

2.—Defects found in factories, workshops and workplaces.

Particulars	No. of defects			Number of prosecutions
	Found	Remedied	Referred to H.M. Inspector	
*Nuisances under the Public Health Acts**—				
Want of cleanliness	59	56	—	—
Want of ventilation	—	—	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	—	—	—	—
Other nuisances....................................	15	14	—	—
Sanitary accommodation—				
Insufficient	—	—	—	—
Unsuitable or defective	36	35	—	—
Not separate for sexes	—	—	—	—
Offences under the Factory & Workshops' Acts—				
Illegal occupation of underground bakehouse (s. 101)...	—	—	—	—
Other offences .... (Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921.)	—	—	—	—
Total.........	110	105	—	—

---

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

Home work.—Lists were received from employers as follows:—

From employers sending twice in the year—3 lists (9 workmen).

From employers sending once in the year—4 lists (2 contractors, 7 workmen).

In each case the work handled was the making of wearing apparel.

Registered workshops.—The workshops on the register at the end of the year were:—

Bakehouses	50
Confectioners	60
Boot repairers	49
Cabinet making and upholstery	24
Dressmaking	33
Millinery	17
Tailoring	29
Laundries	26
Joinery and carpentry	12
Saddlery and harness making	7
Smiths	15
Wagon repairers	6
Motor and cycle repairers	8
Other workshops	55
	391

Other matters.

Workshops removed from the register	49
New workshops opened and placed on register	20
Underground bakehouses discontinued	1
Number of underground bakehouses on the register at the end of the year	21
Instances of failure to affix abstract dealt with	3

RAG FLOCK ACT, 1911.

Pursuant to the provisions of the above Act, 27 visits were made. At the time of these visits the rag flock being used or stored on the premises was to all appearance in a satisfactory condition; no samples were, therefore, taken for the purpose of analysis.

POISONS AND PHARMACY ACT, 1908, AND ORDERS, 1909.

Visits were made to 2 shops and premises in the Borough, in which insecticides containing poison were likely to be kept for sale, but no infringement of the Act was reported.

HEALTH EDUCATION.

Lectures.—During the year Dr. John Hall, M.A., Lecturer-Organiser, Merseyside Boroughs Health Education Committee, has given 42 lectures to audiences totalling 3,220. A wide range of organisations, including Church Societies, Boys' and Girls' Clubs, Co-operative Guilds and Literary and Debating Societies, have during the year extended invitations to Dr. Hall to visit them, and the number of requests for further lectures which he has received affords convincing proof of a general desire for an increase of knowledge on matters of personal and public health.

Cinematograph.—Reference is made in the " Health of School Children " section of this report (page 151) to the exhibition of films which were shown to school children at the North Health Clinic.

Magazine.—Each month 2,200 copies of " Better Health " have been distributed through the schools and in other ways.

MATERNITY AND CHILD WELFARE.

ADMINISTRATIVE ARRANGEMENTS.

General arrangements.—Provision has been made by the local authority for carrying out the requirements of:—

1. The Notification of Births Acts, 1907 and 1915.
2. The Midwives' Acts, 1902 and 1918.
3. The Maternity and Child Welfare Act, 1918.
4. The Nursing Homes Registration Act, 1927.

In addition, work in connection with Part I of the Children Act, 1908, was transferred from the Board of Guardians to the Council and delegated to the Maternity and Child Welfare Committee as from the 1st April, 1930. The visiting in connection with Infant Life Protection was carried out until the end of the year by a member of the staff of the Public Assistance Committee; arrangements being made for this work to be transferred to the Health Nurses on the staff of this department as from the 1st January, 1931.

The authority's scheme includes—

1. Inspection of midwives practising in the area.
2. Health visiting.
3. The provision of four postnatal clinics.
4. The provision of two antenatal clinics.
5. The supply of free milk, etc., for necessitous mothers and infants.
6. Home visiting in connection with cases admitted to the Birkenhead Day and Resident Nurseries.
7. The provision of treatment at the Maternity Hospital of cases of complications arising before, during, and after confinement, and of cases of confinement where the home conditions are bad.
8. The payment in whole or in part of fees to medical practitioners called in by midwives to attend to difficult cases of confinement.
9. The payment in whole or in part of fees to midwives in attendance upon temporarily necessitous cases.
10. The provision of home nursing for children under five suffering from certain diseases, and for expectant and nursing mothers.
11. Financial support of certain institutions engaged in work in the interests of mothers and infants belonging to the Borough, namely, The Birkenhead Day and Resident Nurseries, The Birkenhead and Wirral Invalid Children's Association, St. Faith's Home for Mothers and Babies, the Birkenhead Maternity Hospital, and St. Elizabeth's Convent Welfare Centre.

Infant welfare and postnatal clinics are held at Hamilton Square, St. Paul's Road, Mount Grove, and at the North Health Clinic in Park Road West. The Hamilton Square Clinic was opened in 1916; the St. Paul's Road Clinic in 1919; the Mount Grove Clinic in 1923; and the North Health Clinic at the end of 1929.

Plans for a new branch clinic to serve the South end of the borough have been approved. Similar facilities, it is hoped, will, therefore, shortly be available at both the northern and southern sections of the Borough.

Antenatal Clinics are now being held on three sessions per week; two sessions at Hamilton Square and one at the North Clinic.

The arrangements for home nursing came into force on 1st July, 1919. An agreement between the Corporation and the Birkenhead District Nursing Society provides for the nursing at home of cases of ophthalmia neonatorum; of measles, whooping cough, epidemic diarrhœa, and poliomyelitis in children under the age of five years; and of illnesses of women associated with pregnancy and confinement.

Staff.—Dr. Leete left at the end of June to take up an appointment at Hull; Dr. Woodeson took over his duties at St. Paul's Road Clinic. The executive staff, therefore, engaged on maternity and child welfare work at the end of the year consisted of Dr. Deacon (Hamilton Square antenatal and postnatal clinics); Dr. Williams (North antenatal and postnatal clinics); Dr. Foster (Mount Grove postnatal clinic); and Dr. Woodeson (St. Paul's Road postnatal clinic).

In addition to the part-time services of the Chief Health Nurse and the whole time service of the Inspector of Midwives, the equivalent of the whole time of seven nurses was available for infant welfare work during the year.

Demonstrations, etc., to school children on Mothercraft.—During the year practical demonstrations, etc., on Mothercraft were again given by the Health Nurses on the staff of the Department to the senior girls in some of the elementary schools in the Borough.

The Head Teachers of the schools concerned inform me that teaching of this nature has proved very helpful and useful to the scholars.

INSPECTION AND SUPERVISION OF MIDWIVES.

Work under this section is concerned with the administration of the Midwives' Acts, 1902 and 1918; the visiting of the homes of midwives, inspecting their instruments, etc., advising them on the details of their work and on their duties as set out in the above Acts, and in the rules issued by the Central Midwives' Board.

Number of midwives.—During the year 1930, 73 midwives entered their names on the local register as practising in the Borough. 10 midwives left the district during the year and their names have been removed from the register accordingly. 5 midwives gave notice of change of addresses.

Of the 73 midwives, 67 were trained and 6 untrained.

Number of cases attended by midwives.—The cases attended by midwives alone (no doctor being in attendance) numbered 2,439; over three-quarters of the total births in the Borough.

Visits of inspection.—The Inspector of Midwives paid 107 quarterly and 90 special visits of inspection. She also paid 40 visits to the homes of midwives, but was unable to obtain access.

Interviews in office.—61 midwives were interviewed during the year.

Cases of puerperal fever and puerperal pyrexia in practice of midwives.—The inspector investigated 3 cases of puerperal fever and 23 cases of puerperal pyrexia. 5 deaths were certified during the year as having been due to these conditions.

Cases requiring medical help.—454 cases were notified by midwives in which medical aid had been called in, as against 427 last year. The inspector made 161 special enquiries regarding cases requiring medical help.

Notifications received from midwives.—38 cases of stillbirths were notified; 5 cases were notified of infants receiving artificial feeding; 4 cases were notified in which deaths (3 infants and 1 mother) had occurred in the practice of midwives; 4 cases of laying out a dead body were notified.

Supply of silver nitrate to midwives.—Supplies of a colloid preparation of silver nitrate are issued to midwives at cost price. No requests were made for this during the year.

Ophthalmia neonatorum.—20 cases were notified during the year.

Notified	Treated at home	Treated in hospital	Vision unimpaired	Vision impaired	Total blindness	Deaths
20	16	4	20	—	—	—

Employment of, or subsidy to, practising midwives by the local authority.—No practising midwives are employed or subsidised by the Birkenhead Local Supervising Authority.

HOME VISITING OF EXPECTANT MOTHERS, MOTHERS, AND YOUNG CHILDREN.

Home visiting.—The following is a summary of the visits paid by the health nurses in connection with expectant mothers, mothers, and young children:—

2580 routine first visits were paid to infants.
2726 routine revisits were paid to infants under 1 year.
8774 routine visits were paid to children over 1 year and under 5 years old.
39 first visits and 4 revisits were paid in connection with the investigation of stillbirths.
20 cases of ophthalmia neonatorum were visited and kept under supervision.
61 first visits were paid to expectant mothers.
13 revisits were paid to expectant mothers.
160 visits were made in connection with deaths of infants.
3025 visits were made in connection with miscellaneous matters.

POSTNATAL CLINICS.

The main features of the work carried out at these clinics were set out in my annual report for 1923.

At the end of the year the clinics were being held as follows:—

Hamilton Square clinic: Monday and Wednesday afternoons, 2 to 5 p.m.

St. Paul's Road clinic: Tuesday and Friday afternoons, 2 to 5 p.m.

Mount Grove clinic: Friday afternoon, 2 to 5 p.m.

North clinic: Wednesday and Thursday afternoons, 2 to 5 p.m.

The following table gives an indication of the work done at the clinics during the year:—

	Hamilton Sq. (102 sessions)		St. Paul's Road (103 sessions)		Mount Grove (51 sessions)		North (104 sessions)	
	1st visits	Re-visits	1st visits	Re-visits	1st visits	Re visits	1st visits	Re-visits
Attendances made by infants under 12 months	395	5283	223	2621	137	1766	338	3659
Attendances made by children aged 1—2 years........	25	1438	18	549	5	484	30	836
Attendances made by children aged 2—5 years...............	15	564	16	226	14	191	53	387
Examinations of children by Doctor..............................	375	6075	228	1539	146	900	402	2494
Mothers advised by Doctor regarding their own health...	330	103	211	67	114	43	321	70

Voluntary workers—I have again to express appreciation of the valuable services given at the various clinics by voluntary workers, who give up a great deal of their time for this purpose.

Supply of Milk.—Dried milk was sold at the clinics to suitable cases.

During the year supplies of milk were given free under the Milk (Mothers and Children) Order, 1919, to

234 expectant mothers
12 nursing mothers
158 children.

Milk is given only to—

(*a*) Nursing mothers who are actually suckling their children;
(*b*) Expectant mothers in the last three months of pregnancy;
(*c*) Children up to twelve months whose mothers are unable to nurse them;

and to these only when the doctors at the clinics have satisfied themselves, by a medical examination of the cases on whose behalf the applications have been made, that the supply is essential on grounds of health.

ANTENATAL CLINICS.

As has been previously stated, antenatal clinics were held throughout the year, twice weekly (Tuesday and Thursday afternoons, 2 to 5 p.m.) at Hamilton Square, and once weekly (Monday afternoon, 2 to 5 p.m.) at the North Clinic. Clinics were held on 149 occasions; the number of patients dealt with being 729 and the total number of attendances made being 4,126. Of this total 35 patients, carried over from 1929, made 83 attendances.

Condition with regard to pregnancy.—The condition with regard to pregnancy of the 694 new cases at the time of their first visit was as follows:—

(*a*) 167 were in their first pregnancy.

(*b*) 431 were in their second or subsequent pregnancy (88 of these patients had attended the clinic during a previous pregnancy; 29 during two previous pregnancies; 6 during three previous pregnancies; and 2 during four previous pregnancies).

(*c*) 96 were not pregnant (6 attended the clinic for a second year; 2 for a third year; and 1 for a fourth year).

Abnormalities.—The abnormalities or diseases found to be present in the new cases who attended the clinics during 1930 were as follows:—

(*a*) Women who came to the clinics in their first pregnancy

Abnormality	No. of cases
Tuberculosis	1

(*b*) Women who came to the clinics in their second or subsequent pregnancy

Abnormality	No. of cases
Venereal diseases	23
Anæmia	11
Conditions associated with menopause	8
Sterility	8
Prolapse	7
Retroversion	6
Tuberculosis	2
Varicose veins	2
Albuminuria	1
Placenta prævia	1
Other defects	37

Progress of pregnancies.

(*a*) of the 167 women who came in their first pregnancy

122 were delivered before the end of 1930, having 66 boys and 56 girls (including 8 stillborn children)

4 left the district

41 were not delivered before the end of the year.

(*b*) Of the 431 women in their second or subsequent pregnancy
- 273 were delivered before the end of the year, having 137 boys and 141 girls (including 5 sets of twins and 3 still-born children)
- 10 had miscarriages
- 11 left the district
- 135 were not delivered before the end of the year
- 1 had induced labour
- 1 died—placenta prævia.

Attendances at clincs.—Below are sent out the details of attendances at the clinics—

HAMILTON SQUARE CLINIC.

(103 Sessions).

	First pregnancy	Subsequent pregnancy	Non-pregnant	From 1929	Total
Patients	147	362	85	35	629
Attendances	268	3107	89	83	3547

NORTH CLINIC.

(46 Sessions).

	First pregnancy	Subsequent pregnancy	Non-pregnant	From 1929	Total
Patients	20	69	11	—	100
Attendances	43	503	33	—	579

Maternity outfits.—2 outfits were lent out and returned during the year.

General remarks.—The increase in the number of new cases noticed last year has been maintained; the slightly smaller number at Hamilton Square being more than compensated for by the 100 new cases at the North Health Clinic. Another satisfactory feature is the complete co-operation of the midwives in the area. The midwives are instructed that they should take every care to see that their patients have medical supervision during the antenatal period—from their family doctors in all cases where this can be afforded, otherwise at one of the antenatal clinics.

ARTIFICIAL SUNLIGHT TREATMENT.

Artificial sunlight treatment was given to cases attending at the North Health Clinic. 58 sessions were held during the year. 117 cases were treated on 935 occasions; Dr. Foster being in charge of this work.

INFANT LIFE PROTECTION.

At the end of the year the names of 57 children were entered on the register in accordance with the provisions of Part I of the Children Act, 1908, as having been taken by persons to keep for reward. 16 of the children were in the Cole Street Nursery, 13 in St. Faith's Home, and 28 in charge of foster parents at private dwellings.

OTHER PROVISION MADE BY THE LOCAL AUTHORITY.

Cases dealt with at Maternity Hospital.—During the year 18 cases were admitted into the Maternity Hospital under the terms of the agreement; the number of bed days being 366.

Cases dealt with by the Birkenhead District Nursing Society.—During the year the Society's nurses paid 1,128 visits to 77 cases, under the agreement between the Society and the Corporation. In addition 1086 visits were paid to 76 cases in children under 5 years of age not included in the agreement.

Cases of confinements attended by medical practitioners.—In 233 cases where doctors were called in to difficult cases of confinement the doctors' fees were paid by the Corporation under the provisions of the Midwives' Act, 1918. Recovery of the fees paid was made in 18 cases.

Cases of temporarily necessitous cases attended by midwives.—In 50 cases where midwives attended temporarily necessitous cases of confinement the midwives' fees were paid by the Corporation under the provisions of the Maternity and Child Welfare Act, 1918.

AGENCIES ASSISTED BY THE LOCAL AUTHORITY.

The Corporation gives financial support to certain institutions, etc., for general services rendered in connection with maternity and child welfare work.

Birkenhead Day and Resident Nurseries.—Here accommodation is provided for 17 resident children. The beds are occupied practically the whole time. There were 6 children admitted during 1930.

Birkenhead and Wirral Invalid Children's Association.—Arrangements are made by this association to send children to convalescent homes, and to provide massage treatment for cases of infantile paralysis, etc. During the year 1930, 19 children were sent to convalescent homes by the Association.

St. Faith's Home for Mothers and Babies.—Here accommodation is provided for unmarried mothers and their children—20 cots for babies and 12 beds for mothers. The number of cases admitted to the Home during the year was as follows:—

Expectant mothers	14
Mothers and babies	1
Babies	25

Birkenhead Maternity Hospital.—There are 31 beds provided at the hospital, including 3 isolation and 2 labour beds. The number of cases admitted during the year was 481.

4 beds are provided for delicate babies. 21 babies were admitted during the year.

At the maternity and child welfare clinic held in connection with the hospital the following attendances were made during the year:—

Antenatal clinic: 1st visits 351; Revisits 340.

Postnatal clinic: children under 1 year—
1st visits 281; Revisits 2080.
children 1—5 years—
1st visits 2; Revisits 153.

St. Elizabeth's Convent.—At the maternity and child welfare clinic held here in connection with this Institution the following attendances were made during the year—

Antenatal clinic: 1st visits 30; Revisits 44.

Postnatal clinic: children under 1 year—
1st visits 122; Revisits 598.
children 1—5 years—
1st visits 48; Revisits 525.

The grants made by the Corporation to the above voluntary associations providing maternity and child welfare services under section 101 of the Local Government Act 1929 are as follows:—

Birkenhead Day and Resident Nurseries	£375
Birkenhead and Wirral Invalid Children's Association	40
St. Faith's Home for Mothers and Babies	603
Birkenhead Maternity Hospital—	
(*a*) Hospital treatment of delicate babies	100
(*b*) Infant Welfare Centre	90
(*c*) District midwifery	22
St. Elizabeth's Convent	50

AGENCIES NOT PROVIDED OR ASSISTED BY THE LOCAL AUTHORITY.

Other agencies whose work in Birkenhead touches the welfare of mothers and infants, but which are not provided or assisted by the Birkenhead Corporation, are the following:—

The Birkenhead and Wirral Children's Hospital.
The Charity Organisation Society.
The Society for the Prevention of Cruelty to Children.
The Gynæcological Clinic at the General Hospital.

NURSING HOMES.

No new applications for registration were made during the year.

No orders were made cancelling registration.

Applications were received and granted for exemption from registration—from the Birkenhead General Hospital, the Birkenhead and Wirral Children's Hospital, and the Birkenhead Maternity Hospital.

The total number of Nursing Homes registered in the Borough at the end of the year was 11.

MATERNAL MORTALITY.

During 1930 the deaths of 7 women who died in the Borough from causes associated with pregnancy and childbirth were investigated by the Inspector of Midwives.

The causes of the deaths were as follows:—

Puerperal septicæmia	4
Difficult labour	2
Pneumonia following confinement	1

5 of the deaths took place in hospitals and 2 occurred at the homes of the patients.

The ages at which deaths occurred were 18 years, 25 years, 28 years, 37 years, 40 years (2), and 41 years.

In 2 of the cases midwives were in attendance on the patients.

1 case of placenta prævia was diagnosed at the Hamilton Square Clinic. The patient was sent into the Birkenhead Infirmary, but unfortunately left that institution against medical advice, was taken ill again, and died shortly after re-admission to the Infirmary.

GENERAL.

Ambulance facilities.—Ambulance facilities are provided by the Local Authority as follows :—

(a) For infectious cases...............	2 motor ambulances
(b) For non-infectious and accident cases	6 motor ambulances

Poor Law Medical Out-Relief.—The Minister of Health requests that information regarding Poor Law Medical Out-Relief should be given in this report.

The County Borough of Birkenhead is divided into five districts for the purposes of Poor Law Medical Out-Relief; a medical practitioner being appointed to each district to act as a District Medical Officer.

At the Public Assistance Offices a surgery is provided at which three of the District Medical Officers attend and see patients; the remaining two District Medical Officers see patients at their own surgeries.

The administration of this service has not materially changed since the coming into operation of the Local Government Act, 1929.

HEALTH OF SCHOOL CHILDREN

ADMINISTRATIVE ARRANGEMENTS

Staff.—Dr. Deacon, Dr. Williams, Dr. Foster and Dr. Woodeson have carried out school medical service duties during the year. Dr. J. M. Ritchie, who took up duty on the 1st October, has also been engaged on work in connection with the health of school children.

Mr. P. Wilson Smith, L.D.S., Dental Surgeon, and Miss E. M. Warlow, L.D.S., Assistant Dental Surgeon, have carried on dental inspection and treatment during the whole of the year. An additional Assistant Dental Surgeon, Mr. J. W. Sandham, L.D.S., was appointed and began his duties on the 1st May and terminated them on the 31st October. Mr. Sandham was succeeded on the 1st November by Mr. W. G. Walch, L.D.S. The staff responsible for the work of dental inspection and treatment at the end of 1930, therefore, consisted of Mr. P. Wilson Smith, Dental Surgeon, and Miss E. M. Warlow and Mr. W. G. Walch, Assistant Dental Surgeons.

Following upon the extension of the Dental Scheme the Committee authorised the appointment of an additional Health Nurse. A nurse already on the staff was detailed for duty at the Dental Clinic and the vacancy advertised. Up to the end of the year no suitable application had been received; certain sections of the work have suffered in consequence.

New and prospective arrangements

Stammering children.—Classes for stammering children are conducted at Cole Street and Mersey Park Council Schools on 8 occasions per week. The work was begun in May; so far, accommodation in the classes is restricted to 100 children. A qualified teacher is in charge; admission to, and discharge from, the classes are regulated by examination by an Assistant Medical Officer, carried out in the presence of the teacher of the stammering classes and of the parents.

The establishment of these classes has been fully justified by the results obtained. Many children respond quickly to the special methods of teaching adopted, and a marked improvement in speech results.

Children suffering from squint.—The parents of children suffering from squint, which is not of such long standing as to make the possibility of some recovery of sight doubtful, are given instructions at the Eye Clinic with regard to the occlusion of the straight eye. It is only in few cases, however, that parents can be persuaded to continue the treatment for the length of time necessary to effect any improvement, and it is hoped that it will be possible to make arrangements early in 1931 for squinting children to attend at the Clinic, once weekly, for corrective treatment by means of the administration of mydriatics and the use of an amblyoscope, *Operative treatment of enlarged tonsils and adenoids.*—The agreement with the Birkenhead and Wirral Children's Hospital under which this treatment was provided was ended on the 30th June, and treatment after that date has been given at the Birkenhead Infirmary. Operations were performed upon 82 children at the Children's Hospital and upon 71 at the Infirmary. Under the new arrangements children are taken into the Infirmary on Thursday afternoons and removed to their homes on Saturday afternoons.

Treatment of otitis media by zinc ionisation.—In November, a clinic, held once weekly, was opened at the North Health Clinic for the treatment of the more chronic cases of otitis media by zinc ionisation. Treatment by ordinary methods of this disease (the most noticeable sign of which is discharging ears) is very prolonged and often unsuccessful; and the school time lost by children under treatment is considerable. It is hoped that, as occurred in cases of ringworm of the scalp when treatment by X-rays was introduced, treatment by ionisation will reduce materially the number of children suffering from otitis media, and that a much greater percentage of complete cures will result. During the year the total number of children who received treatment (all forms) for this condition was 136.

X-Rays treatment of ringworm of the scalp.—The agreement with the Birkenhead and Wirral Children's Hospital under which the X-Rays room and apparatus at the Hospital was used at a payment of £1 per occasion has been terminated. The required apparatus has now been installed at the Birkenhead Infirmary, and cases will in future be treated at that institution.

Treatment of dental defects.—By the appointment of an additional Dental Surgeon it has been possible to take in for inspection and treatment a group of children—those born in 1919 and 1920—who had not previously come within the Authority's dental scheme. The increased scope of the work is reflected in the increase in the number of children inspected and treated during the year : 1,108 and 1,546 respectively.

Ascertainment of cases of mental deficiency.—It is of the highest importance that the ascertainment of cases of mental deficiency among school children should be as complete as possible, and should not in any way be restricted by a consideration of the available accommodation for such children already provided. The following arrangements for the examination of children as to suspected mental defect were made during 1930:

The names of children suggested for examination are submitted on Form 41 D to the Director of Education by the Head Teacher (or by the parent: Education Act, 1921, 55 (2)).

Arrangements are then made by the Director and Medical Officer for an examination to be held at the child's school. In most schools, and under ordinary circumstances, this examination takes place at the time of the visit of the Assistant Medical Officer for the purpose of a routine medical inspection ; otherwise a special visit is arranged. In the case of a child who is not attending any school, the examination is held at one of the clinics.

At the time when the child is being examined as to his mental capacity by the Assistant Medical Officer, there are present, in addition to the parent, the Head or Class Teacher and the Inspector of Schools. Every advantage is taken by the Assistant Medical Officer of the assistance thus made available, which is of much practical value. While the onus of certification lies entirely on the certifying medical practitioner, and while the responsibility for such certification cannot in any way be shared, the elucidation of the essential facts are simplified by the arrangement now followed.

In respect of every child examined a full report is prepared by the Assistant Medical Officer on Form 306 M, which is completed at the time of the examination. For the purposes of certification, Forms 301 M, 302 M, 303 M, and 305 M are used.

In particular, a decision must be arrived at as to whether the child is suited for

(a) an ordinary class in a Public Elementary School (with or without the proviso that the child should be again examined at a later date);

(b) a special class for dull or backward children;

(c) a special class or school (day or residential) for mentally defective children; or

(d) notification to the Local Authority under the Mental Deficiency Acts, 1913 and 1927. (See Mental Deficiency (Notification of Children) Regulations, 1928)

In arriving at this decision, the Assistant Medical Officer must on no account be influenced by his knowledge as to the extent of the available accommodation for children in any particular category. Accurate and complete ascertainment is essential. Unless this is obtained the Local Education Authority will remain seriously handicapped in their endeavour to make adequate provision for backward and defective children.

Inspection of mentally defective children attending Claughton Road Council School.—New arrangements were made during the year for the inspection of children attending the Claughton Road Council School. These provide for a regular routine visit to be paid four times yearly; once in each school term. The Committee's Inspector of Schools is in attendance unless the Assistant Medical Officer is visiting the school with the sole purpose of carrying out a physical examination.

The object of this visit is for the doctor

(1) To satisfy himself that any special advice he has given regarding individual children is being followed;

(2) To carry out a physical examination of each child once in each calendar year and to make a record of such examination;

(3) To advise the Head Teacher on any matters regarding the physical or mental condition of any children brought forward for special examination;

(4) To examine all children who will reach the leaving age before the end of the following term, with reference to fitness for taking up work, and to the need for notification to the Mental Deficiency Acts Committee;

(5) To examine children in respect of whom applications for withdrawal for employment before reaching the leaving age have

been received, and to report to and advise the Committee as to their withdrawal or conditional leave of absence, and the general suitability of the employment proposed;

(6) To examine those children brought forward by the Head Teacher as being children who are incapable of receiving further benefit from the instruction in the Claughton Road Council School or who cannot, in the opinion of the Head Teacher, be instructed in the school without detriment to the interests of other children, with a view to their notification, if this be considered desirable, to the Mental Deficiency Acts Committee;

(7) To examine any children brought forward as having made such progress as to warrant their transfer to Public Elementary Schools; and

(8) generally to advise on all matters relating to the health of the children in the school.

The visit will, if possible, be made in each term before the meeting of the Managers of the School.

Film displays.—In November several films dealing with matters of personal and public health were shown at the North Health Clinic to audiences of older boys and girls from schools in the vicinity of the Clinic, a total of 660 children, escorted by teachers, attending on six occasions. Great interest in the films was taken by the children and much appreciation was shown bv the teachers. It is clear that suitable films provide a most useful vehicle for conveying lessons of a valuable nature on subjects which by other means it is not always easy to make interesting; and an extended use of the cinematograph for this purpose is desirable.

Open-air School.—Further consideration was given during the year by the Education Committee to the question of the provision of an open-air school for the Borough. In successive Annual Reports, from 1920 onwards, I have urged that this step should be taken. Many children who are delicate or " below par " are quite unfit for the routine of ordinary school life. For such children a period spent at an open-air school opens up new educational possibilities; resistance to disease is built up, and robust health is substituted for chronic weakness.

MEDICAL INSPECTION AND TREATMENT

(ELEMENTARY SCHOOLS)

(A) INSPECTION

Number of elementary schools and school children.—The number of elementary schools in the borough is:

Council Schools	19	
Voluntary Schools	18	Total 37

The recognised accommodation of these schools was :

Council Schools	14,042	
Voluntary Schools	11,817	Total 25,859

The average number of scholars on the rolls was :

Council Schools	12,385	
Voluntary Schools	10,564	Total 22,949

The average attendance was:

Council Schools	11,189	
Voluntary Schools	9,513	Total 20,702

Children inspected.—The following elementary school children were medically inspected during the year:

1.	At Routine Inspections	6920
2.	At Special Inspections in the ordinary schools	226
3.	At Routine Inspections at the Claughton Road Council School	93
4.	As prospective entrants to the Birkenhead Institute, the Girls' Secondary School, Park High School, Rock Ferry High School, Higher Tranmere High School for Girls, The Convent Secondary School, St. Francis Xavier's College and the Catholic Institute	371
5.	As entrants to the Claughton Road Council School for Mental Defectives	29
6.	Under the Employment of Children Bye-laws	142
	Total	7781

Re-examination of defective children.—During the year 2,251 re-examinations of defective children were made by the Assistant Medical Officers.

Co-operation of parents.—Parents attended at the examination of 5,290 (76.4 per cent.) of the 6,920 children dealt with at routine inspections.

Increasing appreciation of the work of the school medical service is evidenced by a steadily rising percentage of parents' attendances—

1922	59.2%
1923	60.4%
1924	62.9%
1925	66.7%
1926	68.1%
1927	70.2%
1928	71.2%
1929	74.4%
1930	76.4%

Vaccination.—In the ordinary inspections children were examined as to vaccination marks. Of the 6,920 children examined

1603 (23.2%) showed no marks
2726 (39.4%) showed one mark
689 (9.9%) showed two marks
203 (2.9%) showed three marks
1699 (24.6%) showed four or more marks

The following figures show the percentage of infants vaccinated year by year during the last ten years :

Year	Percentage
1921	81.7
1922	80.6
1923	78.2
1924	78.9
1925	77.1
1926	76.6
1927	78.6
1928	79.3
1929	77.9
1930	76.8

Infectious diseases.—Enquiry was made at each inspection as to the infectious diseases from which the children had suffered in the past. The information elicited is summarised in Table S 6.

Defects found requiring medical or dental treatment.—Out of the 7,146 children inspected at routine and special inspections, 876 were found to have defects requiring medical attention. The defects found were as follows :

	Code Groups	Special Cases
Skin Diseases		
Ringworm	8	2
Scabies	9	4
Impetigo	7	3
Other diseases	13	6
Eye Defects		
Defective vision and squint (for further details see Table S 2)	254	54
External eye disease	36	10
Ear Defects		
Defective hearing	8	1
Ear disease	41	6
Nose and Throat Defects		
Enlarged tonsils	38	5
Enlarged tonsils and adenoids	14	5
Adenoids	5	1
Other defects	19	5
Teeth defects	178	8
Pulmonary Tuberculosis		
Definite	—	—
Suspected	4	—
Non-Pulmonary Tuberculosis		
Glands	—	1
Other forms	2	—
Other Defects or Diseases	156	53

A full statement regarding the defects found, setting out the number of defective children, is given in Table S 2. In Table S 5 the defective children are classified according to the schools attended.

(B) TREATMENT

The parents or guardians of all children found at routine examinations to be defective are informed immediately of the need for medical advice or treatment and are urged to consult their family doctors regarding the defects in question. They are later visited at their homes by the Health Nurses, the Assistant Medical Officers making periodical re-examinations in the schools to ascertain what action has been taken.

During the past year the Health Nurses paid 679 visits to the homes of defective children in connection with " following up "—568 first visits and 111 re-visits; and 2,251 re-examinations of defective children were made by the Assistant Medical Officers. In addition, the Nurses paid 26 special visits.

Treatment of children found, at medical inspections held during 1930, to be suffering from defects which required medical attention.—As has been stated above, 876 out of 7,146 children examined at routine and special inspections in elementary schools during 1930 were found to be suffering from defects requiring medical attention; out of these 876 children suffering from defects, 155 or 17.9 per cent. received treatment before the end of the year.

Details of the various types of ailment treated will be found in Table S 4.

Treatment at the Eye Clinic.—Children who were found by the Assistant Medical Officers to require spectacles, and whose parents were not in a position to secure the necessary attention privately, were seen at the Eye Clinic by Dr. Williams; Mr. Norman Wilson as usual assisting with the work.

The large number of *re-examinations* carried out during the year is worthy of note. A certain proportion of these cases attended on the instructions of Dr. Williams given at the Eye Clinic or of the Assistant Medical Officers at routine inspections in schools; but a large number were brought by parents of their own initiative for the purpose of having glasses repaired, or because they appreciated the importance in certain types of visual defect of periodical re-examination.

Care is taken to secure that, so far as can be judged without any elaborate system of investigation, only those parents who are not in a position to obtain private attention to their children's eyes are allowed to avail themselves of the facilities provided at the clinic.

During the year 365 new cases were examined, 783 children attended for re-examination, and 669 pairs of spectacles were supplied. The total cost of all the spectacles which were ordered during the year was £122 3s. 2d., of which the parents were required to pay £111 10s. 3d. The total sum collected during the year (including arrears from previous years) was £125 2s. 0d.

The following is a summary of the visual defects of new cases for whom spectacles were prescribed during the year:

First Eye	Second Eye	
Hypermetropia	Hypermetropia	104
Hypermetropia	Normal	1
Hypermetropia	Hypermetropic astigmatism	15
Hypermetropia	Mixed astigmatism	1
Hypermetropic astigmatism	Hypermetropic astigmatism	35
Hypermetropic astigmatism	Mixed astigmatism	6
Myopia	Myopia	50
Myopia	Normal	8
Myopia	Myopic astigmatism	3
Myopic astigmatism	Myopic astigmatism	15
Myopic astigmatism	Normal	1
Myopic astigmatism	Mixed astigmatism	3
Mixed astigmatism	Mixed astigmatism	6
Mixed astigmatism	Normal	1
		249

63 children who were submitted to refraction were found to be emmetropic and not in need of spectacles.

The following conditions were also recorded among the new cases who attended the clinic :

Corneal nebulæ	3
Coloboma of iris and choroid	1
Nystagmus	1
Large staphyloma	1
Congenital cataract	1

The new cases of strabismus noted during the year were as follows :

Convergent: Right eye, 19; left eye, 45; alternating, 8.
Divergent: Right eye, 3; left eye, 2; alternating, 1.

Blind and partially blind children

(1) *Totally blind children*

At the beginning of 1930 there were 13 *totally blind* children of school age on the register. During the year the names of 8 children were removed, and 2 added, leaving 7 at the end of the year. Of these 7 children, 6 were in attendance at certified schools for the blind ; the other 1 was awaiting admission.

(2) *Partially blind children*

At the beginning of 1930 there were 53 *partially blind* children of school age on the register. During the year the names of 12 children were removed (11 on their becoming over school age, and 1 on account of improvement in her sight). and 5 new cases were added. At the end of 1930 there were 46 cases on the register. Of these children 13 boys and 20 girls were attending ordinary elementary schools. 8 boys and 5 girls were in attendance at the myope class held at Park Road Council School.

Myopia	10
Myopia and nystagmus	1
Myopic astigmatism	20
Myopic astigmatism and nystagmus	1
Corneal nebulæ	8
Hypermetropic astigmatism and nystagmus	3
Hypermetropia and nystagmus	1
Optic atrophy	1
Cataract	1
	46

Of the 24 children in the myopic group who were on the register in 1929, and who were re-examined during 1930, the visual condition of 13 had grown worse.

Treatment of ringworm at the X-Rays Clinic.—During the year 4 cases were treated for ringworm at the X-Rays Clinic by Dr. Foster. 19 exposures to X-Rays were given. The duration of exposure is carefully checked by the use of pastilles, and averaged 15 minutes.

Treatment at the General School Clinic.—Details of the work of this clinic, where cases of external eye disease, ear inflammation, skin disease, etc., are treated, will be found in Table S 4.

The number of children who received treatment at the Clinic was 2,476; the total attendances numbered 12,800.

Treatment of otitis media by zinc ionisation.—In the middle of November treatment of otitis media by zinc ionisation was begun by Dr. Woodeson at the North Health Clinic. Before the end of the year six children had received treatment on 29 occasions for an average of fifteen minutes per child on each occasion. These cases were all suffering from otitis media of old standing, but improvement was effected in each case, and apparent cure was effected in 3 cases.

Treatment of orthopædic defects.—In November, 1925, a municipal orthopædic clinic was opened at the premises then occupied by the Birkenhead and Wirral Invalid Children's Association in Albion Street, Birkenhead. Later the clinic was removed to the Association's new premises at 43 Hamilton Square. During the past four years there has been considerable development in the work of orthopædic treatment; the main features of this are dealt with below.

1. *Examinations carried out at the clinic by the orthopædic surgeon.*—At the clinic Dr. Hartley Martin, the orthopædic surgeon, has attended on 21 occasions during the year. The after-care sister attended weekly.

The clinic deals with all forms of crippling disease in children The cost of the clinic is distributed as follows :

(*a*) Tuberculous cases (all ages): Health Committee.
(*b*) Non-tuberculous cases under school age: Maternity and Child Welfare Committee.
(*c*) Non-tuberculous cases of school age : Education Committee.

During 1930, 144 new cases were dealt with, as compared with 133 in the previous year:

Tuberculous cases	5
Non-tuberculous cases—	
Under school age	68
Of school age	67
Over school age	4
	144

There were 581 re-examinations made, as compared with 676 in 1929 :

Tuberculous cases	76
Non-tuberculous cases—	
Under school age	196
Of school age	291
Over school age	18
	581

The average number of cases seen by the surgeon per session was 35.

In the following table Dr. Hartley Martin sets out a classification of cases dealt with, and shows the results of treatment:

Diagnosis	Remaining 1929	1930 New cases			Remaining 1931			Discharges 1930					
		School age			School age								
		Under	Of	Over	Under	Of	Over	Cured	Relieved	Left district	Refused treatment	Unsuitable	Died
Infantile Paralysis	21	2	4	...	3	22	2	...	..	..	...	...	...
Spastic Paralysis	27	1	2	2	4	22	1	...	3	...	...	2	...
Rickets	76	27	7	..	54	37	...	14	...	...	5	...	...
Osteitis and Arthritis :													
(*b*) Tuberculous	38	1	5	3	2	31	8	2	2	...	1	...	1
(*a*) Non-Tuberculous..	1	...	2	...	...	2	...	1	...	..	...	..	...
Congenital Deform. ..	24	6	4	...	12	15	...	2	...	...	3	...	2
Acquired Deform.......	55	17	32	...	16	44	4	33	....	1	4	2	...
Diagnosis	1	14	15	...	2	1	...	...	...	....	..	27	...
Totals...	243	68	71	5	93	174	15	52	5	1	13	31	3

2. *Massage and remedial exercises.*—Massage and remedial exercises as prescribed by Dr. Martin were provided by the Invalid Children's Association. (There are two whole-time masseuses on the Association's staff.)

Attendances for massage and remedial exercises were made by clinic cases as follows:

Tuberculous cases	61
Non-tuberculous cases—	
Under school age	713
Of school age	3126
Over school age	15

In addition to the above, 2,113 attendances were made by non-clinic cases (that is to say, cases sent to the Association by orthopædic surgeons attached to voluntary hospitals, etc).

3. *Artificial sunlight.*—A carbon-arc lamp is installed at the premises of the Invalid Children's Association. Selected cases attended for the administration of this form of treatment by the Association's staff, as follows:

Clinic cases (sent by Dr. Martin)		Attendances.
Tuberculous cases	1	—
Non-tuberculous cases—		
Of school age	9	
Under school age	23	425
Over school age	—	
Non-clinic cases	76	830

4. *Surgical apparatus—splints, etc.*—These are provided by the Association, the number of cases dealt with during the past year being as follows:

Clinic cases	112
Non-clinic cases	83

5. *Milk, tonics, convalescence, after-care.*—Most useful work is also done by the Association in providing milk, tonics, etc., for patients for whom these have been prescribed by the orthopædic surgeon and other doctors, and in following up and helping patients who have passed through the stage of active treatment.

	Clinic cases	Non-clinic cases
Children supplied with milk	91	685
Children supplied with tonics	174	496
Children sent to convalescent homes and country hospitals	45	177

6. *Children's Hospital, Leasowe.*—Of the 382 cases that have been on the register of the orthopædic clinic and regarded as suitable for treatment during the past year, 16 (or 4.2%) required hospital treatment and were admitted to the Children's Hospital, Leasowe. These cases comprise :

		Stay in Hospital Days		
	Cases	Min.	Max.	Average
Congenital deformities	1	12	12	12
Rickets	13	16	99	54
Spastic paralysis	1	43	43	43
Other acquired deformities ...	1	71	71	71

The total number of days in hospital was 831 (2.3 beds occupied throughout the year).

In addition to the above, 20 cases were referred to the hospital for X-Rays examination, and 10 cases for the application of plaster of Paris splints.

7. *Thingwall Sanatorium.*—At this institution children suffering from orthopædic defects of tuberculous origin are treated. Many are cases who have passed through a course of treatment at Leasowe Hospital, or are awaiting admission to that institution.

Treatment of enlarged tonsils and adenoids.—Operations were performed at the Birkenhead and Wirral Children's Hospital upon 82 children under the Committee's scheme for the provision of this treatment, and at the Birkenhead Infirmary 71 ; a total of 153.

Treatment of uncleanliness.—The average number of visits paid during 1930 by the Health Nurses to each school in the Borough was 17 ; the total examinations numbering 66,722.

The number of individual children found by the Health Nurses to require attention was 3,291, as compared with 2,529 in 1929. In every case the parents were informed. In 23 cases of persistent neglect notices were served on the parents. The Nurses paid 34 visits to the homes of children (20 first visits, 14 re-visits).

Increase of the work of the Health Nurses, consequent to a large extent upon the development of activities at the North Health Clinic and the failure to replace the Health Nurse detailed for duty at the Dental Clinic, has made increasingly difficult the work of following up of children found to require attention on account of uncleanliness. (It may be noted that the number of sessions worked by Health Nurses on Minor Ailments Clinics was 1,068 in 1930 against 935 in 1929.)

It should also be borne in mind that the standard of cleanliness set in Birkenhead is very high; a large proportion of the children reported as "requiring attention" being cases where only a few nits are present.

In the 23 cases where notices were served the cleansing was carried out by the parents themselves; it was, therefore, not found necessary to deal with any case at the Cleansing Station.

DENTAL INSPECTION AND TREATMENT (ELEMENTARY SCHOOLS)

(A) INSPECTION

Scope of past year's work.—The work of dental inspection and treatment was concerned with the inspection and treatment of children born in the years 1919, 1920, 1921, 1922, 1923, 1924 and 1925.

Number inspected.—12,048 children were dentally inspected during the year as follows:

Aged four years	119
Aged five years	1512
Aged six years	1774
Aged seven years	1937
Aged eight years	1918
Aged nine years	2069
Aged ten years	2109
Aged eleven years	610
	12048

The figures for the preceding year (1929) were :

Aged four years	67
Aged five years	1454
Aged six years	1986
Aged seven years	1789
Aged eight years	2373
Aged nine years	1384
Aged twelve years	1238
Aged thirteen years	649
	10940

Number requiring dental treatment.—Of the 12,048 children inspected, 8,958 (74.4%) were selected as requiring treatment, the parents being advised to obtain this treatment privately, or, if unable to do this, at the Dental Clinic.

Cleanliness of teeth.—The children examined were classified according to cleanliness of teeth as follows:

Clean	5110
Fairly clean	5582
Dirty	1356
	12048

Condition of gums.—The following figures show the condition of the gums of the children examined:

Gums healthy	7905
Gums inflamed	2319
Gums septic	1824
	12048

Condition of bite.—This was found to be as set out below:

Bite good	7716
Bite fair	3296
Bite bad	1036
	12048

(B) TREATMENT

Notices were sent to the parents of the 8,958 children found to require dental treatment, with the following results :

Refused to have treatment done, or did not reply	878	(9.8%)
Stated that treatment would be obtained privately	1838	(20.5%)
Requested treatment at the Dental Clinic	6242	(69.7%)
	8958	

Treatment at the Dental Clinic.—Of the 6,242 children for whom treatment at the clinic was requested

3973	were treated before the end of the year
800	did not attend when sent for
1469	were awaiting treatment at the end of the year
6242	

Besides the above 3,973 children treated at the clinic following on inspections held in 1930, the following also received treatment : 430 who had been inspected in 1929 and had not been treated before the end of that year, and 1,923 who were brought by parents on their own initiative. The total number of children treated at the clinic during 1930 was therefore :

Following on 1929 inspections	430
Following on 1930 inspections	3973
Brought by parents on their own initiative	1923
	6326

Details of treatment carried out.—This was as follows:

Temporary teeth filled	271
Temporary teeth extracted	8464
Permanent teeth filled	3311
Permanent teeth extracted	1107
Total fillings	3582
Total extractions	9571
Anæsthetics—general	—
local	4829
Scalings	2380
Dressings	855

The total number of attendances at the clinic numbered 7,651, and the number of treatments completed during the year was 5,810; 2,620 parents paid 1s. each and 168 parents 6d. each for treatment, the total amount paid being £135 4s. 0d.

MEDICAL INSPECTION AND TREATMENT (SECONDARY SCHOOLS AND CONTINUATION SCHOOLS)

The powers and duties of local education authorities with regard to medical inspection and treatment in secondary schools and continuation schools are set out in Section 80 of the Education Act, 1921.

Schools at which medical inspection is carried out.—Medical inspection is arranged for at the following schools:

	No. on Roll.
(*a*) Provided by the Local Education Authority—	
The Birkenhead Institute (Boys)	496
The Girls' Secondary School	407
Park High School (Boys)	301
Rock Ferry High School (Boys)	341
(*b*) Not provided by the Local Education Authority—	
The Higher Tranmere High School for Girls	250
The Convent Secondary School	290

There are no continuation schools provided by the local education authority at which medical inspection has to be carried out.

Scope of medical inspection.—The existing arrangements provide for the examination once in each year of every child in the schools inspected; and for the re-examination of children found to be defective.

The opinion of the Board of Education in this connection is expressed in Circular 1153: "In view of the many defects that may arise during the critical period of adolescence, the Board attach great importance to arrangements being made for all pupils to come annually, as a matter of routine, under medical supervision."

Birkenhead Institute.—At the annual inspection 408 boys were inspected. 15 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	5
Defective vision	8
Other defects	3

Girls' Secondary School.—At the annual inspection 379 girls were inspected. 20 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	14
Defective vision	3
Deformities	2
Heart defects	1
Defective hearing	1
Enlarged tonsils	1

Rock Ferry High School.—At the annual inspection 302 boys were inspected. 61 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	39
Defective vision	10
Nose and throat defects	13
Ear defect	1
Other defects	3

Park High School.—At the annual inspection 265 boys were inspected. 55 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	33
Defective vision	10
Nose and throat defects	8
Ear defects	1
Heart defects	2
Other defects	8

Higher Tranmere High School for Girls.—At the annual inspection 64 girls were inspected. 2 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	1
Defective vision	1
Enlarged tonsils	1

Convent F.C.J.—At the annual inspection 239 children were inspected. 12 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	12

Claughton Road Council School for Mentally Defective Children.—The average number on the rolls during the year was 111, and the average daily attendance was 94.

A routine inspection of all scholars attending the School was carried out. 93 children were examined, of whom 8 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	7
Defective vision	1

In accordance with the revised arrangements for ascertainment, 14 examinations of children suspected to be mentally defective were held at various schools during the year by the Assistant Medical Officers. The results of these examinations are set out below:

Total number examined—Boys	10	
Girls	19	
		29
Number certified as mentally defective—Boys	3	
Girls	4	
		7
Number recommended to continue in attendance at ordinary Elementary Schools—Boys	6	
Girls	13	
		19

Number found to be physically defective and recommended for admission to open air schools—Girls	2	
	—	2
Number found to be epileptic and recommended for admission to residential institution for epileptics—Boy	1	
	—	1

27 children left the school during the year :

(*a*) on reaching the age of 16 years	9*
(*b*) before reaching the age of 16 years	
Fit for work	9
Admitted to Liverpool School for the Deaf	1
Admitted to Royal Albert Institution, Lancaster	1
Left district	1
Employed at home	1
Admitted to Birkenhead Infirmary	1
Transferred to Wallasey Public Assistance Committee	1
Died	1
Admitted to Leasowe Hospital	1
Admitted to Residential Special School	1

*5 of these cases were notified to the Local Authority under the Mental Deficiency Acts.

Of the 9 children who left to take up work

1 is employed in a bakery;
1 is employed in a grocer's shop;
1 is employed in the building trade;
1 is employed in a wood yard;
1 is employed in a cycle shop;
2 are employed in a ship yard;
2 are employed in domestic service.

School dinners have been provided throughout the year at a cost to the parents of 2d. per day.

Daily average supplied	75
Total cost for the year	£125

The weekly menu was :

Monday.......Soup; boiled suet pudding.
Tuesday.......Irish stew; milk pudding.
Wednesday...Meat pie and vegetables.
Thursday.....Irish stew; milk pudding.
Friday.........Meat pie and vegetables.

During the year the Committee arranged with the Callister Social Club for the school to have the use of the Club's recreation ground in Slatey Road; facilities being thus afforded for school activities in the open air.

Holiday camp at Gronant.—The bungalow at Gronant was again secured by the Education Committee for the month of June, and ideal weather conditions made possible the spending of the whole month in the open air: meals, lessons, and exercises all being taken on the shore

The total amount chargeable to the Committee was £26 10s. 0d., part of which, it is anticipated, will be covered by Government grant.

Voluntary After-Care Association.—The Voluntary After-Care Association has continued to supervise and help former pupils of the school.

At the end of the year there were 210 cases (143 males and 67 females) on the After-Care Register. Of these, 120 males (including 15 who are married) and 25 females were employable. 8 females (not included in the " employables ") were married.

As the arrangements for residential care by the Local Control Authority are still incomplete, the work of the Association is particularly helpful.

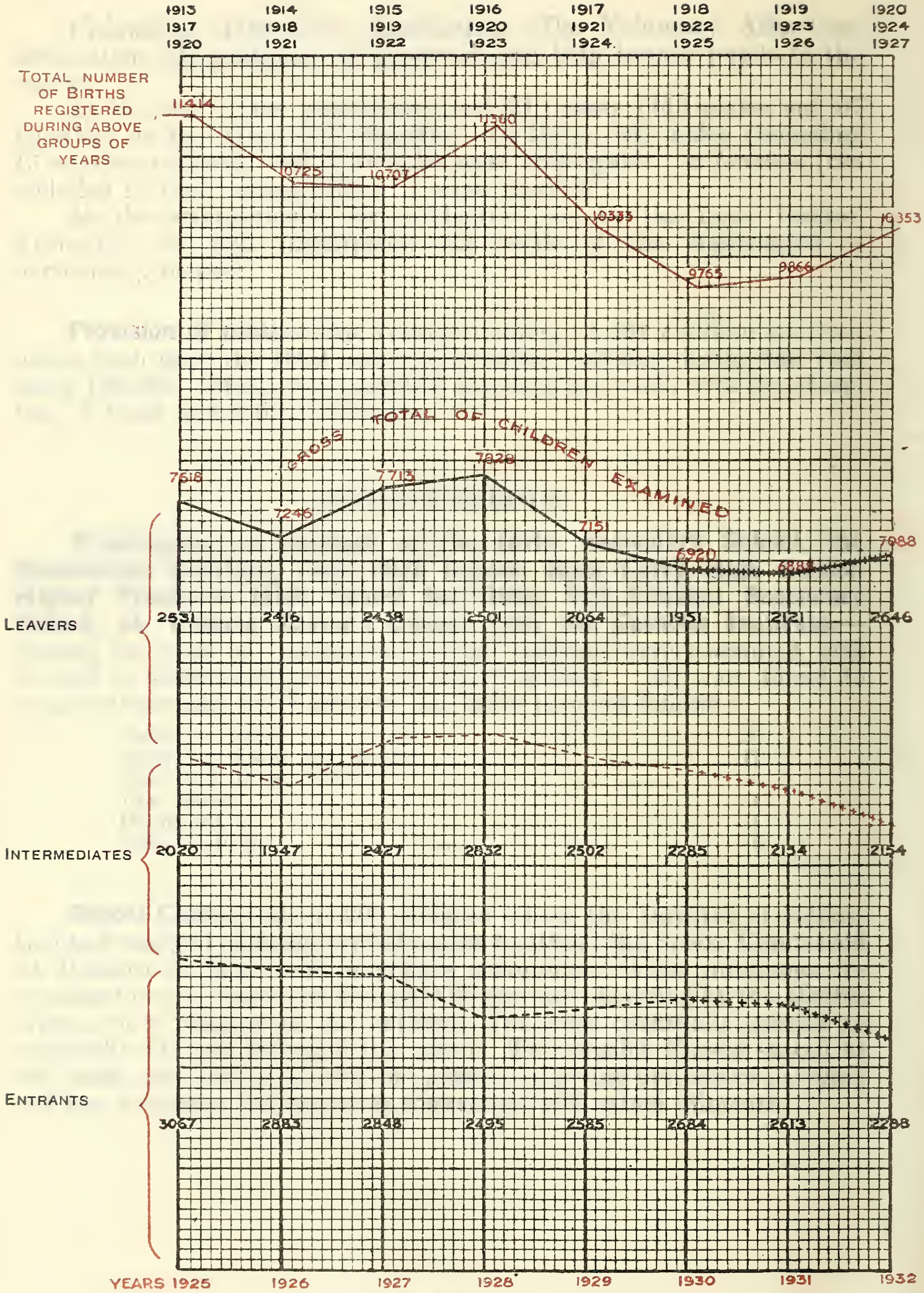
Provision of meals.—An average number of 581 children received meals each day, the total number of meals provided during the year being 128,689. Meals were supplied five days per week, with the exception of Bank and Public Holidays.

MISCELLANEOUS

Examination of entrants to the Girls' Secondary School, the Birkenhead Institute, Park High School, Rock Ferry High School, Higher Tranmere High School for Girls, The Convent Secondary School, St. Francis Xavier's College, and the Catholic Institute.—During the year 371 elementary school children were examined with a view to their admission to the above schools. 56 were found to require treatment for 57 defects, the latter being as follows :

Defective teeth	30
Defective vision and squint	17
Nose and throat defects	2
Ear defect	1
Deformity	1
Other defects	6

School Camp.—About 200 children whom the Director of Education had selected as being suitable cases to attend the School Camp held at Dyserth in May were medically examined. After numerous re-examinations by Assistant Medical Officers and cleansing by the Health Nurses of a number of the children, 161 were eventually passed as medically fit, and attended the camp. Two Health Nurses stayed at the camp, one each week, for the purpose of giving first aid or carrying out any necessary treatment in connection with minor ailments.



Number of children examined at routine inspections during 1925–1930
Estimated number of children to be examined at routine inspections during 1931–32

NOTE.—In any given year (say 1930) there are examined:
(*a*) Entrants, born in (1930–5 =)1925
(*b*) Intermediates, born in (1930-8 =)1922
(*c*) Leavers, born in (1930-12 =)1918

TABLE S 1

Return of Medical Inspections during 1930 (see note *a*)

A.—ROUTINE MEDICAL INSPECTIONS

Number of Code Group Inspections (see note *b*)	
Entrants	2684
Intermediates	2285
Leavers	1951
Total	6920
Number of other routine inspections (see note *c*)	93

B.—OTHER INSPECTIONS

Number of special inspections (see note *d*)	4018
Number of re-inspections (see note *e*)	5163
Total	9181

NOTES ON TABLE S 1

(*a*) The return refers to a complete calendar year.

(*b*) This heading relates solely to the routine medical inspection of the three ordinary age groups, *i.e.*, to medical inspections carried out:

(i) in compliance with Article 7 of the Consolidated Regulations relating to Special Services—Grant Regulations No. 19;

(ii) on the school premises (or at a place specially sanctioned by the Board under Article 44 (*h*) of the Code);

(iii) for the purpose of making a report on each child on the lines of the approved Schedule set out in Circular 582.

(*c*) Under this heading may be recorded *routine* inspections, if any, of children who do not fall under the three code age-groups, *e.g.*, *routine* inspections of a fourth age-group or of other groups of children, as distinct from those who are individually selected on account of some suspected ill-health for a "Special" Inspection.

(*d*) A Special Inspection is a medical inspection by the School Medical Officer himself or by one of the Assistant Medical Officers on his staff of a child specially selected or referred for such inspection, *i.e.*, not inspected at a routine medical inspection as defined above. Such children may be selected during a visit to the school or may be referred for inspection by the teachers, health nurses, attendance officers, parents, or otherwise. It is immaterial for the purpose of this heading whether the children are inspected at the school or at the Inspection Clinic or elsewhere. If a child happens to come before the School Medical Officer for special inspection during a year in which it falls into one of the routine groups, its routine inspection is entered in Part A of Table S 1 and its special inspection in Part B. The inspection to be recorded under the heading of special inspections is only the first inspection of the child so referred for a particular defect. If a child who has been specially inspected for one defect is subsequently specially inspected for another defect, such subsequent inspection is recorded as a special inspection and not as a re-inspection.

(*e*) Under this heading are entered the medical inspections of children who as the result of a routine or special inspection come up later on for subsequent re-inspection, whether at the school or at the inspection clinic. The first inspection in every case is entered as a routine or special inspection as the case may be. Every subsequent inspection of the same defect is entered as a re-inspection.

Nothing is included under the head of special inspections or re-inspections except such inspections as are defined above. Attendances for treatment by a nurse or for examinations by anyone other than a doctor on the staff of the School Medical Service are not recorded as medical inspections. If, however, at any such attendance, a child is also examined by a member of the authority's medical staff, this is recorded as a special inspection or re-inspection as the case may be, even if treatment is also given; but such attendance may also of course be recorded as an attendance for treatment.

TABLE S 2

A. Return of Defects found by Medical Inspection during the year ended 31st December, 1930.

Defect or disease	Routine Inspections		Special Inspections	
	No. of defects		No. of defects	
(1)	Requiring treatment (2)	Requiring to be kept under observation, but *not* requiring treatment (3)	Requiring treatment (4)	Requiring to be kept under observation, but *not* requiring treatment (5)
Malnutrition	2	5	4	—
Uncleanliness	—	—	—	—
(See Table S 4, Group V.)				
Skin Ringworm—Scalp	1	—	18	—
Body	7	—	45	—
Scabies	9	1	57	—
Impetigo	7	—	286	—
Other diseases (non-tuberculous)	13	6	190	—
Eye Blepharitis	18	2	77	—
Conjunctivitis	11	1	129	—
Keratitis	1	1	2	—
Corneal ulcer	1	1	20	—
Corneal opacities	2	—	3	—
Defective vision (excluding squint)	191	88	90	2
Squint	63	23	15	—
Other conditions	3	—	110	—
Ear Defective hearing	8	5	17	—
Otitis media	37	15	143	1
Other ear diseases	4	3	36	—
Nose and throat. Enlarged tonsils only	38	50	152	3
Adenoids only	5	9	23	—
Enlarged tonsils and adenoids	14	15	30	—
Other conditions	19	10	258	—
Enlarged cervical glands (non-tuberculous)	1	9	10	—
Defective speech	2	7	1	—
Teeth Dental diseases (see note *a*)	178	12	57	2
(See Table S 4, Group IV.)				
Heart and circulation—				
Heart disease—Organic	6	10	5	—
Functional	8	54	9	—
Anæmia	11	12	10	—
Lungs Bronchitis	23	12	35	—
Other non-tuberculous diseases	12	45	107	—
Tuberculosis Pulmonary—Definite	—	1	2	—
Suspected	4	2	2	—
Non-pulmonary—Glands	—	1	1	—
Spine	—	—	—	—
Hip	—	1	—	—
Other bones and joints	—	—	—	—
Skin	1	—	—	—
Other forms	1	2	1	—
Nervous system. Epilepsy	—	—	3	—
Chorea	3	3	10	—
Other conditions	—	5	9	—
Deformities Rickets	2	1	3	—
Spinal curvature	—	2	1	—
Other forms	14	5	8	—
Other defects and diseases	73	40	1943	6

TABLE S 2—Continued

B. Number of *individual children* (see note *b*) found at *routine* medical inspection to require treatment (excluding uncleanliness and dental diseases)

Group. (1)	Number of children. Inspected (see note *c*). (2)	Number of children. Found to require treatment. (3)	Percentage of children found to require treatment (4)
CODE GROUPS :			
Entrants	2684	203	7·0
Intermediates.	2285	225	9·8
Leavers	1951	289	14·8
Total (code groups)	6920	717	10·3
Other routine inspections	93	8	8·6

NOTES ON TABLE S 2.

(*a*) The figures included in this space refer to the findings of the Medical Staff and not those resulting from dental inspection in the schools by the School Dental Surgeon. The findings of the School Dental Surgeon are recorded in Table S 4 Group IV.

(*b*) No individual child is counted more than once in this part of Table S 2, *i.e.*, under B., even if it is found to be suffering from more than one defect.

(*c*) The figures in this column are the same as those given in Table S 1 A.

TABLE S 3

Return of all exceptional children in the area (see note *a*)

			Boys	Girls	Total
Blind (including partially blind) (see note *b*)	(*i*) Suitable for training in a school or class for the totally blind	Attending certified schools or classes for the blind	3	3	6
		Attending public elementary schools (see note *c*)	–	–	–
		At other institutions	–	–	–
		At no school or institution	1	–	1
	(*ii*) Suitable for training in a school or class for the partially blind	Attending certified schools or classes for the blind	8	5	13
		Attending public elementary schools (see note *c*)	13	20	33
		At other institutions	–	–	–
		At no school or institution	–	–	–
Deaf (including deaf and dumb and partially deaf) (see note *d*)	(*i*) Suitable for training in a school or class for the totally deaf or deaf and dumb	Attending certified schools or classes for the deaf	10	10	20
		Attending public elementary schools (see note *c*)	–	–	–
		At other institutions	–	–	–
		At no school or institution	–	–	–
	(*ii*) Suitable for training in a school or class for the partially deaf	Attending certified schools or classes for the deaf	–	–	–
		Attending public elementary schools (see note *c*)	1	–	1
		At other institutions	–	–	–
		At no school or institution	–	–	–
Mentally defective	Feebleminded (cases not notifiable to the Local Control Authority.) (see note *e*)	Attending certified schools for mentally defective children	59	44	103
		Attending public elementary schools (see note *c*)	–	–	–
		At other institutions	2	1	3
		At no school or institution	–	–	–
Epileptics	Suffering from severe epilepsy (see note *f*)	Attending certified special schools for epileptics	4	1	5
		In institutions other than certified special schools	–	–	–
		Attending public elementary schools (see note *c*)	–	–	–
		At no school or institution	–	1	1
	Suffering from epilepsy which is not severe (see note *g*)	Attending public elementary schools (see note *c*)	–	1	1
		At no school or institution	–	1	1
Physically defective	Infectious pulmonary and glandular tuberculosis (see note *h*)	At sanatoria or sanatorium schools approved by the Ministry of Health or the Board	–	–	–
		At other institutions	1	–	1
		At no school or institution	–	–	–
	Non-infectious but active pulmonary and glandular tuberculosis (see note *h*)	At sanatoria or sanatorium schools approved by the Ministry of Health or the Board	1	1	2
		At certified residential open air schools	–	–	–
		At certified day open air schools	–	–	–
		At public elementary schools (see note *c*)	–	–	–
		At other institutions	–	–	–
		At no school or institution	1	2	3

TABLE S 3—Continued

Physically defective (continued)	Delicate children (*e.g.*, pre-or latent tuberculosis, malnutrition, debility, anæmia, etc.) (see note *h*)*	At certified residential open air schools	–	–	–
		At certified day open air schools	–	–	–
		At public elementary schools (see note *c*)	19	37	56
		At other institutions	–	–	–
		At no school or institution	–	–	–
	Active non-pulmonary tuberculosis (see note *h*)	At sanatoria or hospital schools approved by the Ministry of Health or the Board	19	17	36
		At public elementary schools (see note *c*)	–	–	–
		At other institutions	–	–	–
		At no school or institution	1	2	3
	Crippled children (other than those with active tuberculous disease), *e.g.*, children suffering from paralysis, &c., and including those with severe heart disease (see note *h*)	At certified hospital schools	–	1	1
		At certified residential cripple schools	1	–	1
		At certified day cripple schools	–	–	–
		At public elementary schools (see note *c*)	23	34	57
		At other institutions	–	–	–
		At no school or institution	6	7	13

*A complete record of these children has not been kept, as there is no open-air school available.

NOTES ON TABLE S 3

(*a*) This Table is a return of all children in the area for whom the Local Education Authority are responsible and who (except in the case of children suffering from epilepsy which is not severe) have been ascertained to be blind, deaf, defective or epileptic within the meaning of Part V of the Education Act 1921. It is the statutory duty of every Local Education Authority formally to ascertain all defective children in their area irrespective of the actual provision now made for their instruction in Special Schools. It is assumed by the Board of Education that every authority will have a complete list of such children compiled from returns made continuously during the year and kept constantly up to date. In order to secure uniformity, authorities are requested to make up this Table from their list of defective children as it stands on the last day of each calendar year.

Children who are living in residential schools in the area but who come from other areas are not included in this Table; but children are included who are living in residential schools outside the area and who are being maintained there by the authority.

For the purpose of this Table no child is included whose defect has not been ascertained by the School Medical Officer or a medical member of the authority's staff.

The definitions of defective children as given in the Act are as follows—

A blind child is a child who is too blind to be able to read the ordinary school books used by children.

A deaf child is a child who is too deaf to be taught in a class of hearing children in an elementary school.

Mentally and physically defective children are children who, not being imbecile and not being merely dull and backward, are defective, that is to say, children who by reason of mental or physical defect are incapable of receiving proper benefit from the instruction in the ordinary public elementary schools, but are not incapable by reason of that defect of receiving benefit from instruction in such special classes or schools as under Part V of the Act may be provided for defective children.

Epileptic children are children who, not being idiots or imbeciles, are unfit by reason of severe epilepsy to attend the ordinary public elementary schools.

NOTES ON TABLE S 3—Continued

(*b*) For the purpose of this return the Board require that children who are blind within the meaning of the Act should be divided into two categories, *i.e.*, (1) those who are totally blind or so blind that they can only be appropriately taught in a school or class for totally blind children, and (2) those who though they cannot read ordinary school books, or cannot read them without injury to their eyesight, have such power of vision that they can appropriately be taught in a school or class for the partially blind.

It should be understood that children who are able by means of suitable glasses to read the ordinary school books used by children without fatigue or injury to their vision are not included in this Table.

(*c*) The Board emphasises the fact that it should be understood that none of the children in this Table (except children suffering from epilepsy which is not severe) should in fact be attending public elementary schools. When the heading is retained, it is merely because at present the insufficiency of Special School accommodation makes it impossible to do better for some defective children than to allow them to attend the ordinary school. No space is left for the entry of children with infectious pulmonary tuberculosis attending public elementary schools, as these children should, of course, be promptly excluded from such schools.

(*d*) Children who are deaf within the meaning of the Act are classified for the purpose of this Table as (1) totally deaf or so deaf that they can only be appropriately taught in a school or class for the totally deaf, and (2) partially deaf, *i.e.*, those who can appropriately be taught in a school or class for the partially deaf.

(*e*) This category includes only those children for whose education and maintenance the Local Education Authority are resposible, and who are not eligible for notification to the Local Control Authority under the Mental Deficiency Act.

(*f*) In this part of the Table only those children are included who are epileptic within the meaning of the Act.

(For practical purposes the Board are of opinion that children who are subject to attacks of major epilepsy in school should be recorded as "severe" cases and excluded from ordinary public elementary schools.)

(*g*) In this part of the Table are entered the remainder of the epileptic children in the area, *i.e.*, children whose disease is of such a kind as not to unfit them for attendance at an ordinary public elementary school.

(*h*) The exact classification of physically defective is admittedly a matter of difficulty. The Board request School Medical Officers to record these defective children as accurately as possible under the selected sub-headings, taking care that *no child is entered under more than one sub-heading.*

TABLE S 4

Return of Defects treated during the year ended 31st December, 1930
(see note *a*)

TREATMENT TABLE

Group I.—Minor Ailments (excluding uncleanliness, for which see Group V)

Defect or disease (1)	Number of defects treated, or under treatment during the year		
	Under the Authority's scheme (see note *b.*) (2)	Otherwise (3)	Total (4)
Skin—Ringworm—scalp	17	—	17
body	43	—	43
Scabies	51	—	51
Impetigo	278	—	278
Other skin diseases	164	1	165
Minor eye defects (external and other, but excluding cases falling in Group II.)	309	—	309
Minor ear defects (see note *c*)	172	—	172
Miscellaneous (*e.g.*, minor injuries, bruises, sores, chilblains, &c.)	1578	3	1581
Total	2612	4	2616

Group II.—Defective Vision and Squint (excluding minor eye defects treated as minor ailments—Group I.)

Defect or disease (1)	Number of defects dealt with			
	Under the Authority's scheme (see note *b.*) (2)	Submitted to refraction by private practitioner or at hospital, apart from the Authority's scheme (3)	Otherwise (4)	Total (5)
Errors of refraction (including squint) (operations for squint should be recorded separately in the body of the report)	743	6	—	749
Other defect or disease of the eyes (excluding those recorded in Group I)	5	—	—	5
Total	748	6	—	754

Total number of children for whom spectacles were prescribed—

(*a*) Under the Authority's scheme	706
(*b*) Otherwise	5

Total number of children who obtained or received spectacles—

(*a*) Under the Authority's scheme	669
(*b*) Otherwise	5

TABLE S 4—Continued

Group III.—Treatment of Defects of Nose and Throat

Number of defects				
Received operative treatment				
Under the Authority s scheme, in clinic or hospital (see note *b*) (1)	By private practitioner or hospital, apart from the Authority's scheme (2)	Total (3)	Received other forms of treatment (4)	Total number treated (5)
153	—	153	132	285

Group IV.—Dental Defects

(1) Number of children who were—		
(*a*) Inspected by the Dentist—		
Routine age groups—aged 4	119	
aged 5	1512	
aged 6	1774	
aged 7	1937	
aged 8	1918	
aged 9	2069	
aged 10	2109	
aged 11	610	
		12048
Special (see note *d*)		—
(*b*) Found to require treatment		8958
(*c*) Actually treated		6326
(*d*) Re-treated during the year as the result of periodical examination (see note *e*)		—
(2) Half-days devoted to—Inspection	132	
Treatment	868	
		1000
(3) Attendances made by children for treatment		7651
(4) Fillings ......Permanent teeth	3311	
Temporary teeth	271	
		3582
(5) Extractions ......Permanent teeth	1107	
Temporary teeth	8464	
		9571
(6) Administrations of general anæsthetics for extractions		—
(7) Other operations ......Permanent teeth	516	
Temporary teeth	339	
		855
Scalings		2380
Local anæsthetics		4829

Group V.—Uncleanliness and Verminous Conditions (see note *f*)

(i) Average number of visits per school made during the year by Health Nurses	17
(ii) Total number of examinations of children in the schools by Health Nurses	66722
(iii) Number of individual children found unclean	3291
(iv) Number of children cleansed under arrangements made by the Local Education Authority	—
(v) Number of cases in which legal proceedings were taken—	
(*a*) Under the Education Act, 1921	—
(*b*) Under School Attendance Byelaws	—

NOTES ON TABLE S 4

(*a*) The Table deals with all defects treated during the year, however they were brought to the Authority's notice, *i.e.*, whether by routine inspection, special inspection, or otherwise, during the year in question or previously.

(*b*) This heading includes all cases that received treatment under definite arrangements or agreements for treatment made by the Local Education Authority and sanctioned by the Board of Education under Sections 16 and 80 of the Education Act, 1921. Cases, which, after being recommended for treatment or advised to obtain it, actually received treatment by private practitioners, or by means of direct application to Hospitals, or by the use of hospital tickets supplied by private persons, etc., are entered under other headings.

(*c*) The Board request that if any treatment is given for more serious diseases of the ear (*e.g.*, operative treatment in hospital) it should not be recorded here but in the body of the School Medical Officer's Annual Report.

(*d*) The heading " Specials " in this Table relates to all children inspected by the School Dentist otherwise than in the course of the routine inspection of children in one of the age groups covered by the Authority's approved scheme, namely, to children specially selected by him, or referred by medical officers, parents, teachers, etc., on account of urgency. The number inspected in each age group is separately shown, as well as the total, but under " Specials " only the total number is given.

(*e*) It should be understood that all the cases entered under this head are also entered under head (*c*)

(*f*) A statement as to the arrangements made by the Local Education Authority for cleansing verminous children and a record of the cases in which legal proceedings were taken are included in the body of the School Medical Officer's report.

N.B —Groups I—V above cover all the defects for which treatment is normally provided as part of the School Medical Service. The Board request that particulars as to the measures adopted by the Authority for providing treatment for other types of defect (*e.g.*, for orthopædic treatment) or for securing improvement in types of defect which do not fall to be treated under the Authority's own scheme and for which the Authority neither incur expenditure nor accept any responsibility, together with a statement of the effect of the measures taken, should be included in the body of the School Medical Officer's report; such particulars following the headings of Table S 2.

TABLE S 5

Number of children examined at Routine Medical Inspections in the Schools and number found defective in each School

School.	Entrants	Intermediates	Leavers	Total ordinary inspections	Parents present	*Number of defective children	Number of defects found	Classification of Defects														
								Malnutrition	Skin diseases	Eyes	Ears	Nose and throat	Cervical glands (non-tub'culous)	Defective speech	Teeth	Heart and circulation	Lungs	Tuberculosis (pulmonary)	Tuberculosis (non-pul'nary)	Nervous system	Deformities	Other defects and diseases	Totals
Bidston Avenue	140	98	64	302	273	29	34	—	2	5	5	12	—	—	7	1	—	—	—	—	—	2	34
Brassey Street Infants ..	66	69	—	135	120	14	17	—	2	1	3	4	—	—	4	—	—	—	—	1	—	2	17
Cathcart Street	113	101	51	265	218	31	36	—	—	12	4	5	—	1	3	2	6	—	1	—	—	2	36
Cole Street	138	70	20	228	192	35	43	—	1	6	6	5	—	—	7	4	1	—	—	—	1	12	43
Gautby Road	193	—	—	193	176	21	23	—	3	9	2	—	—	—	2	—	5	—	—	—	1	1	23
Laird Street	100	128	40	268	231	36	41	1	4	7	2	4	—	—	10	3	2	—	—	—	1	7	41
Mersey Park	85	114	44	243	199	22	22	—	—	6	—	5	—	—	4	—	1	—	—	—	1	5	22
Pilgrim Street	90	86	29	205	170	15	17	—	—	9	—	2	—	—	3	3	—	—	—	—	—	—	17
Price Street	43	31	—	74	63	11	11	—	3	5	—	1	—	—	—	—	—	1	—	—	—	1	11
Rock Ferry	132	130	83	345	247	37	42	—	—	21	2	2	—	—	9	1	3	—	—	—	—	4	42
The Woodlands	102	88	26	216	168	11	11	—	—	4	—	3	—	—	3	—	1	—	—	—	—	—	11
Trinity Street ,, ...	53	29	—	82	74	5	5	—	—	2	2	—	—	—	1	—	—	—	—	—	—	—	5
Well Lane.................... ..	82	92	97	271	213	27	28	—	1	10	—	2	—	—	6	—	4	—	—	—	1	4	28
Woodchurch Road	131	131	57	319	253	26	27	1	2	14	—	3	—	—	5	1	—	—	—	—	1	—	27
Park Road Temporary	61	35	—	96	76	11	11	—	2	4	2	—	—	—	—	—	1	—	—	—	1	1	11
Claughton H.G.	122	78	83	283	248	18	18	—	—	8	1	3	—	—	4	—	1	—	—	—	—	1	18

Our Lady's	122	120	71	313	253	56	70	—	6	20	7	6	—	—	10	3	3	—	—	—	3	12	70
Oxton	17	16	1	34	20	1	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Rock Ferry H.G.	82	71	54	207	161	16	17	—	1	9	—	2	—	—	—	—	—	—	—	—	3	2	17
St. Andrew's	37	30	23	90	77	9	10	—	—	4	—	2	—	—	4	—	—	—	—	—	—	—	10
St. Anne's	59	65	50	174	133	26	28	—	3	13	3	2	—	—	3	—	1	—	—	—	—	3	28
St. Anne's R.C.	95	71	83	249	169	17	18	—	—	10	1	1	—	—	3	1	2	—	—	—	—	—	18
St. Catherine's	40	24	31	95	59	9	9	—	1	5	1	1	—	—	—	—	—	—	—	—	—	1	9
St. James'	30	46	35	111	78	8	9	—	1	3	—	—	—	—	4	—	—	—	—	—	—	1	9
St. John's	74	73	104	251	167	22	24	—	1	11	1	—	—	—	10	—	—	—	—	—	—	1	24
St. Joseph's	25	36	21	82	55	5	5	—	—	2	1	—	—	—	1	—	—	—	1	—	—	—	5
St. Laurence's	138	144	125	407	307	48	52	—	1	26	—	—	1	1	18	—	—	2	—	—	1	2	52
St. Luke's	79	66	58	203	149	12	12	—	—	3	—	1	—	—	6	2	—	—	—	—	—	—	12
St. Paul's	34	39	23	96	68	10	11	—	1	4	—	—	—	—	4	—	—	—	—	—	—	2	11
St. Werburgh's	89	102	52	243	180	26	27	—	—	16	—	6	—	—	4	—	—	—	—	—	—	1	27
Tranmere H.G.	35	26	32	93	78	5	5	—	—	1	—	1	—	—	3	—	—	—	—	—	—	—	5
Brassey Street Central	—	—	124	124	68	27	32	—	—	9	2	2	—	—	10	2	1	—	—	1	2	3	32
Conway Street Central	—	—	112	112	54	13	13	—	—	7	—	—	—	—	6	—	—	—	—	—	—	—	13
Hemingford St. Central	—	—	115	115	55	24	28	—	—	9	—	1	—	—	16	—	—	—	—	1	—	1	28
Temple Road Central	—	—	134	134	73	11	11	—	—	7	1	—	—	—	—	1	2	—	—	—	—	—	11
St. Hugh's Central	—	—	71	71	17	13	15	—	2	4	3	—	—	—	3	1	—	1	—	—	—	1	15
Totals	2684	2285	1951	6920	5290	717	793	2	37	290	49	76	1	2	178	25	35	4	2	3	16	73	793

* The number of defects found is in excess of the number of defective children, as one child may have several defects.

TABLE S 6

Past Infectious Diseases (Elementary School Children)

(1) Children aged 3—7	No. of Cases	Percentage
No Infectious Disease	551	20.5
Measles	1613	60.0
Whooping Cough	1198	44.6
Scarlet Fever	110	4.0
Diphtheria	51	1.9
Chicken Pox	773	20.9
Mumps	274	10.1

(2) Children aged 8—14	No. of Cases	Percentage
No Infectious Disease	148	3.2
Measles	3886	91.7
Whooping Cough	2490	58.7
Scarlet Fever	319	7.5
Diphtheria	129	3.0
Chicken Pox	2087	49.3
Mumps	1273	30.0

Note.—The same child may have had more than one of these diseases